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Handbook of Procedures

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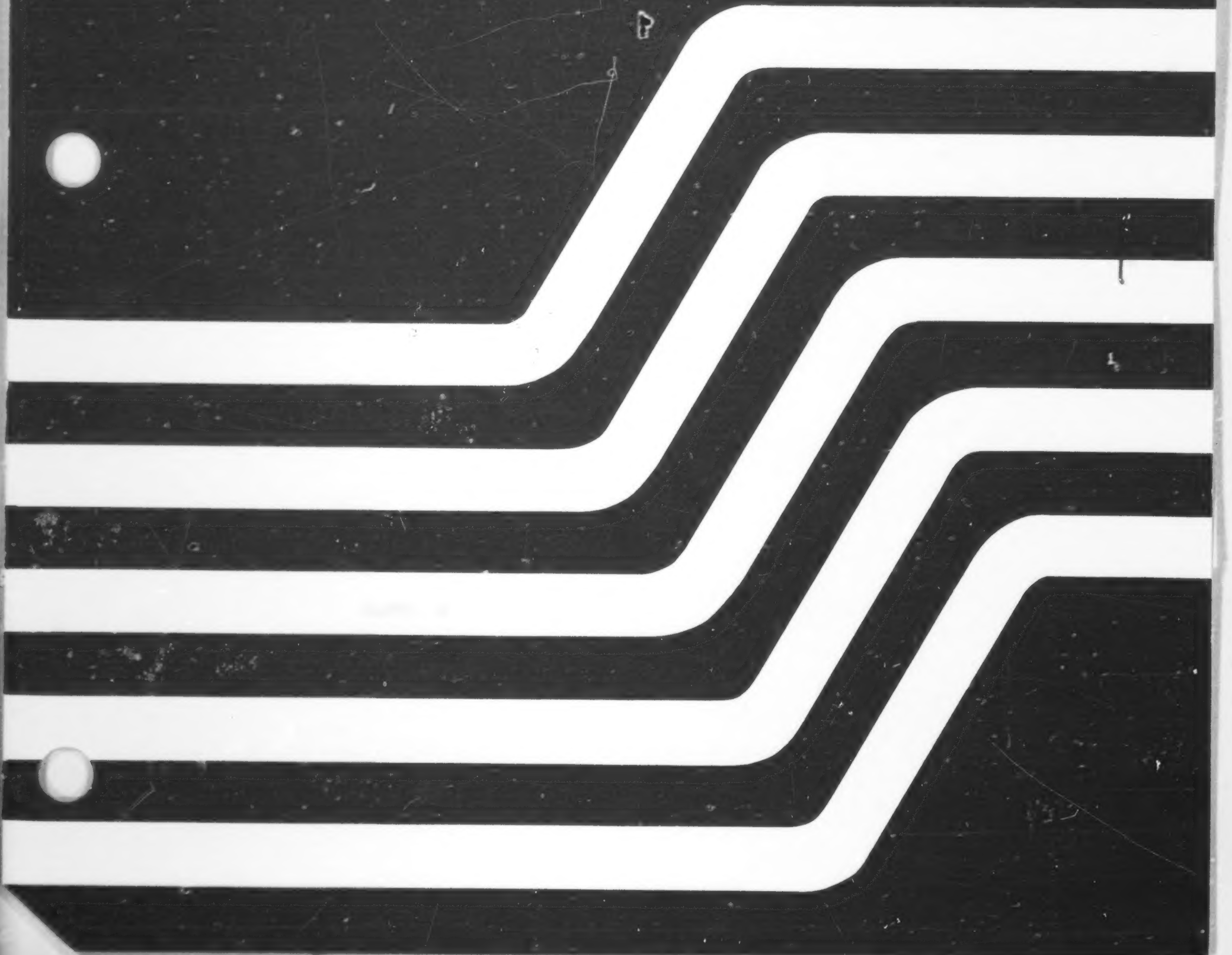
Handbook of Procedures



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This Handbook of Procedures identifiies and explains the many procedures to be followed by project reviewers and other personnel in State Agencies and EPA Regional Offices who are responsible for the conduct of the Construction Grants Program.

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TABLE OF CONTENTS

PAGE

LIST OF ILLUSTRATIONS 19

LIST OF ACRONYMS 21

CHAPTER I. INTRODUCTION 101

- A. Introduction 103
- B. Purpose 103
- C. Methodology 104
- D. Organization and Content 105
  - 1. History 105
  - 2. Organization 106
  - 3. Format 106
  - 4. Regulations 107
    - a. 40 CFR Parts 108
    - b. Other Regulations 109
  - 5. Policy Memoranda 110
  - 6. State Requirements 110
  - 7. Related Materials 111
  - 8. Updating 111
- E. Legislative History 112
- F. State Delegation 114
  - 1. General 114
  - 2. Delegation Agreements 115
    - a. Basic or "Umbrella" Agreement 116
    - b. Functional Agreements or Subagreements 116
  - 3. Delegated Functions 116
  - 4. EPA Oversight 118
    - a. Developing the Plan for Oversight 118
    - b. Negotiating Annual Outputs 118
    - c. Monitoring and Evaluating Program Performance 119
  - 5. U.S. Army Corps of Engineers 119

CHAPTER II. WATER QUALITY PLANNING 201

- A. Introduction 203
- B. Defining Water Quality 203
  - 1. Water Quality Goals and Standards 203
  - 2. Water Quality Monitoring 204
  - 3. Water Quality Report 205

PAGE

C. Water Quality Management Planning 205
  1. General 205
  2. Continuing Planning Process 206
  3. Water Quality Management Plans 207
  4. Water Quality Management Funding and Annual Work Program 210
D. Implementing the Water Quality Management Plan 211
  1. National Municipal Policy 211
  2. Municipal Permits 212
  3. Facilities Plans 212
E. Funding the Construction Grants Program 213
  1. General 213
  2. Allotment of Funds 213
  3. State Priority System and Project Priority List 214
  4. Reserves 217
    a. Reserve for State Management Assistance 218
    b. Reserve for Alternative Systems for Small Communities 218
    c. Reserve for Innovative or Alternative Technologies 218
    d. Reserve for Water Quality Management Planning 219
    e. Reserve for Advances of Allowance 219
F. Summary of the Planning Process 220

CHAPTER III. PREAPPLICATION MANAGEMENT 301

A. Introduction 303
B. Qualifications 304
  1. Applicant Qualifications 304
  2. Project Qualifications 305
C. Preapplication Project Management 306
  1. Project Identification 306
  2. Project Tracking 306
  3. Grants Information and Control System 307
D. Preplanning Conference 308
  1. Permits and Compliance Schedules 309
  2. Procurement of Engineering Services 309
    a. Procedures 309
    b. Use of Small, Minority, Women's, and Labor Surplus Area Businesses 310
    c. Use of Debarred or Suspended Firms 310
  3. Financial Considerations 311
    a. State Priority System and Project Priority List 311
    b. Federal Grant Share 311

PAGE

c. Financial Assistance for Facilities Planning and Design Work 311
d. Step 2+3 Grants 312
e. Preaward Costs 312
f. Phased or Segmented Projects 312
4. Limitations on Eligibility 312
a. Collection Systems 312
b. Individual Systems 313
c. Reserve Capacity 313
5. Intergovernmental Review 313
6. Technical Review 313
a. Water Quality Management Plan 313
b. Facilities Plan 313
c. Value Engineering 314
d. Intermunicipal Service Agreements 315
e. User Charge System 315
f. Sewer Use Ordinance 315
g. Plan of Operation 315
h. Project Performance Standards 315
7. Categorical Exclusion 316
8. Project Management 316
9. Publications 317
E. Advance of Allowance 317

CHAPTER IV. FACILITIES PLANNING 401

A. Introduction 403
B. Regulatory Requirements 403
1. Facilities Planning Regulations 403
2. National Environmental Policy Act 405
3. Water Quality Management Plans 406
4. Facilities Planning Review 407
C. Facilities Plan Contents 408
1. Summary, Conclusions, and Recommendations 408
2. Purpose and Need 408
2.1. Study Purpose 408
2.2. Need for the Project 409
3. Effluent Limitations 411
3.1. Secondary Treatment 412
3.2. Marine Discharge Waivers 413
3.3. Advanced Treatment 413
3.4. Land Application 414
4. Existing Environment 416
4.1. Existing Conditions in the Planning Area 416
4.2. Existing Wastewater Flows and Treatment System Performance 418

PAGE

4.3. Infiltration and Inflow 419
5. Future Conditions 423
  5.1. Planning Period 424
  5.2. Land Use Projections 425
  5.3. Population Forecast 427
  5.4. Industrial and Federal Facilities 428
  5.5. Flow Reduction 430
  5.6. Forecast of Flow and Waste Load 432
  5.7. Reserve Capacity 434
  5.8. Future Environment without the Project 434
6. Development of Alternatives 434
  6.1. Flow Reduction 435
  6.2. Optimum Performance of Existing Facilities 435
  6.3. Unsewered Areas 437
  6.4. Conventional Sewers 439
  6.5. Alternative Conveyance Systems 441
  6.6. Interceptor Sewers 442
  6.7. Regionalization 444
  6.8. Conventional Treatment 445
  6.9. Innovative and Alternative Technologies 447
  6.10. Alternative Technologies 448
    a. Effluent Treatment 448
    b. Sludge 449
    c. Energy Recovery 449
    d. Small Alternative Wastewater Systems 449
  6.11. Land Application Systems 450
    a. Site Selection 451
    b. Loading Rates and Land Area 451
    c. Estimated Costs 451
    d. Preapplication Treatment 451
    e. Environmental Effects 451
  6.12. Innovative Technologies 452
  6.13. Sludge Disposal 455
    a. Composting 457
    b. Landspreading 457
    c. Distribution and Marketing 458
    d. Methane Recovery 458
    e. Self-sustaining Incineration 458
  6.14. Identification of Principal Alternatives 459

PAGE

7. Evaluation of Principal Alternatives 461
  7.1. Monetary Evaluation 461
    a. Sunk Costs 462
    b. Present Worth 462
    c. Useful Life 462
    d. Escalation 463
    e. Interest During Construction 464
    f. Staging of Construction 464
    g. Cost Preference for Innovative or Alternative Technologies 465
    h. Multiple Purpose Projects 466
    i. User Costs 468
  7.2. Engineering Evaluation 469
    a. Reliability 469
    b. Energy Use 469
    c. Water Supply 470
    d. Revenue Generating Applications 470
    e. Open Space and Recreation 470
    f. Disinfection 471
    g. Process Complexity 471
  7.3. Environmental Impacts 472
  7.4. Public Involvement 472
  7.5. Implementability 473
  7.6. Plan Selection 474
8. Selected Plan Description 475
  8.1. Relevant Design Parameters 475
  8.2. Financial and Managerial Capability 476
    a. Cost Information 479
    b. Cost Impacts on Users 479
    c. Capital Financing Plan 480
    d. Project Implementation 480
D. Facilities Plan Approval 481
  1. Criteria for Preparing an Environmental Impact Statement 482
  2. Environmental Review Process 484
    2.1. Historical and Archaeological Sites 484
      a. Documentation and Strategy Development Survey 485
      b. Site Recognition Survey 486
      c. Site Definition and Evaluation Survey 487
    2.2. Environmentally Sensitive Areas 489
      a. Wetlands 489
      b. Floodplains 490
      c. Important Farm Lands 490
      d. Coastal Zones 490
      e. Wild and Scenic Rivers 491
      f. Fish and Wildlife 491
      g. Threatened or Endangered Species 492

PAGE

2.3. Air Quality 492
2.4. Drinking Water 493
3. Direct and Indirect Impacts 493
3.1. Direct Impacts 493
3.2. Indirect Impacts 494
4. Finding of No Significant Impact 495
5. Environmental Impact Statement 496
5.1. Notice of Intent 496
5.2. Preparation 497
6. Grant Award Exception 498
E. Supplemental Considerations 498A
1. Advanced Treatment 498A
2. Industrial Pretreatment 498D
3. Combined Sewer Overflow Projects 498H

CHAPTER V. DESIGN 501

A. Introduction 503
B. Predesign Conference 504
C. Review of Plans and Specifications 506
1. Administrative Review 507
a. Formal Advertising 507
b. Public Notice 508
c. Prequalification of Contractors and Products 508
d. Addenda 509
e. Bid Proposal 509
f. Basis for Award 509
g. Sole Source Procurement 510
h. Scope of Work 511
i. Responsibilities of Parties 511
j. Subagreement 512
k. Lower Tier Subagreements 512
l. Bonding and Insurance 512
m. Regulatory Provisions 513
n. Safety 514
o. Schedule 514
p. Permits 514
q. Wage Rate Determination 515
r. Liquidated Damages 515
s. Change Order Procedures 515
t. Payment Request Procedures 516
u. Retainage 516
v. Construction Incentive Clause 517
w. Small, Minority, Women's and Labor Surplus Area Businesses 517
2. Technical Review 519
a. Project Performance Standards 519

PAGE

b. Mitigation of Adverse Environmental Impacts 520
c. Chemical Storage and Hazardous Materials 521
d. Chlorine Safety 521
e. Wet and Dry Wells 523
f. Protection of Potable Water Supply 524
g. Reliability 524
h. Shellfish Waters 528
i. Electrical Power 528
j. Loadings 530
k. Hydraulic Profile 530
l. Land Application Systems 530
m. Sewers 531
n. Sewer Rehabilitation 531
o. Small Systems 531
p. Sludge Management 532
q. Bypassing during Construction 534
r. Ease of Maintenance 534
s. Emergency Alarms 534
t. Pretreatment 535
u. Aesthetics 535
v. Laboratory Facilities 536
w. Handicapped Design Considerations 536
x. Use of Mercury 537
y. Reconfirmation of Innovative or Alternative Technology 539
z. Project Sign 539
aa. Buy American 539
bb. Nonrestrictive Specifications 540
cc. Subsurface Information 541
dd. Storage of Equipment and Materials 541
3. Biddability and Constructibility Review 541
a. Biddability 542
b. Constructibility 542
4. Discrepancies 542
D. Value Engineering 543
1. Conduct of the Study 545
2. Implementation of Recommendations 545
E. User Charge System 546
F. Sewer Use Ordinance 549
G. Plan of Operation 551
1. Budget 551
2. Administrative Functions 551
3. Staffing and Training 552
4. Operation and Maintenance Manual 552
H. Intermunicipal Service Agreement 553
I. Industrial Wastes and Federal Facilities 555

PAGE

J. Design Acceptance 556
  1. Plans and Specifications 556
  2. Preparation for Grant Application 557
  3. No Future Grant 558

CHAPTER VI. GRANT PROCESSING 601

A. Introduction 603
B. Application Contents 604
C. Application Review 607
  1. Application Form 607
  2. Facilities Plan 609
  3. Public Participation 610
  4. Notification of Advance of Allowance 610
  5. Plans and Specifications 610
  6. Project Schedule 611
D. Limitations on Award 613
  1. Advanced Treatment 613
  2. Water Quality Management Plans 613
  3. Priority Determination 613
  4. Financial and Managerial Capability 614
  5. Utilization of Small, Minority, Women's, and Labor Surplus Area Businesses 616
  6. Unlawful Practices 617
  7. Debarment and Suspension 617
  8. Plan of Operation 618
  9. Intermunicipal Service Agreement 618
  10. Phased or Segmented Treatment Works 619
    a. Conditions 620
    b. Grantee Commitment 621
    c. Reserve Capacity 621
      i. Interceptor Awarded a Step 3 Grant before December 29, 1981 621
      ii. Treatment Plant and/or Interceptor Awarded a Step 3 Grant before October 1, 1984 621
      iii. Treatment Plant and/or Interceptor Awarded a Step 3 Grant after September 30, 1984 622
    d. Federal Share 622
      i. Before October 1, 1984 622
      ii. After September 30, 1984 622
  11. Revised Water Quality Standards 623
  12. Environmental Review 624
  13. Value Engineering 625
  14. Collection System 625
  15. Preaward Costs 627

PAGE

16. Infiltration and Inflow 628
17. User Charge System and Sewer Use Ordinance 629
18. Reserve Capacity 630
19. Industrial and Federal Facilities 634

E. Additional Considerations for Award 634
  1. Small Alternative Wastewater Systems 634
  2. Marine Discharge Waiver Applicants 637
  3. Innovative or Alternative Technology Reconfirmation 637
  4. Pretreatment 637
  5. Force Account 638
  6. Intergovernmental Review 639
  7. Procurement of Professional Services 640
  8. General Grant Conditions 641

F. Step 2+3 Grants 643
  1. Qualifications 643
  2. Application Contents 643
  3. Deferred Provisions 644

G. Combined Sewer Overflow Grants 645
  1. Source of Funds 645
    a. State's Regular Allotment 645
    b. Governor's Discretionary Set-aside 645
    c. Separate Appropriation for Marine Projects 646
  2. Project Requirements 646
    a. State's Regular Allotment 646
    b. Governor's Discretionary Set-aside 647
    c. Separate Appropriation for Marine Projects 648

H. Land Acquisition Grants 651
  1. Grant Application 652
  2. Deferred Provisions 653
  3. Grant Conditions 654
  4. Preaward Costs 654

I. Innovative or Alternative Technology Field Testing Grants 655
  1. Grant Application 655
  2. Deferred Provisions 656
  3. Grant Conditions 657
  4. Preaward Costs 657

J. Innovative or Alternative Technology Modification or Replacement Grants 658

K. Grants to States for Advances of Allowance 659
  1. Defining the State Program 659
    a. Qualified Communities 660
    b. Application Procedure 661
    c. Amount of Advance 661
    d. Timing of Payments 661
    e. Repayment of Advance 662

PAGE

2. Applying for the State Grant 662
L. Federal Grant Share 664
  1. Total Allowable Project Cost 664
  2. EPA Grant Share 667
    a. Standard Grant Share 667
    b. Uniform Lower Federal Share 667
    c. Phased or Segmented Projects 667
    d. Projects Using an Innovative or Alternative Technology 667
    e. Projects for the Modification or Replacement of a Failed Innovative or Alternative Technology 668
    f. Other Projects 668
M. Grant Award Procedures 668
  1. State Procedures 669
  2. Priority Certification 670
  3. Project Certification by Delegated States 670
  4. Grant Agreement/Amendment 670
  5. General Grant Conditions 671
    a. Effect of Approval 672
    b. Step 2+3 672
    c. Project Changes 672
    d. Land Acquisition 672
    e. Project Initiation 672
    f. Quality Assurance Program 673
    g. Project Performance Standards 673
    h. Field Testing of Innovative or Alternative Technologies 673
  6. Special Grant Conditions 673

CHAPTER VII. CONSTRUCTION 701

A. Introduction 703
B. Procurement System Requirements 704
  1. Procurement System Certification 704
  2. Reporting Requirements 706
  3. Public Notice Requirements 707
C. Procurement of Professional Services 708
  1. Competitive Negotiation 708
    a. Public Notice 709
    b. Proposal Documents 709
    c. Proposal Evaluation 710
    d. Negotiation 710
    e. Contract Award 710
  2. Optional Method for Procuring Engineering Services 710
    a. Public Notice 711
    b. Evaluation of Qualifications 711

PAGE

    c. Proposal Request and Evaluation 711
    d. Negotiation 711
  3. Continuation of Engineering Services 711
    a. Prior Grant 712
    b. Prior Competitive Selection 712
    c. Noncompetitive Negotiation 713
  4. Small, Minority, Women's, and Labor Surplus Area Businesses 714
  5. Scope of Work 714
    a. Engineering Services during Construction 714
    b. Post-construction Engineering Services 714
  6. Types of Subagreements and Required Provisions 716
  7. Cost and Price Analysis 717
  8. Additional Services 718
D. Procurement of Construction Contractors 719
  1. Competitive Bidding 719
    a. Public Notice 720
    b. Bidding Documents 720
    c. Addenda 721
    d. Number of Bids 721
    e. Bid Evaluation 721
    f. Contract Award 721
  2. Rejection of All Bids 722
  3. Small, Minority, Women's, and Labor Surplus Area Businesses 722
  4. Grant Adjustment 722
    a. Building Cost 723
    b. Construction Contingency 723
    c. Land Acquisition Cost 723
    d. Allowance for Planning and/or Design 723
    e. Grant Amendment 724
  5. Contract Award 724
  6. Protests 724
E. Small Purchases 726
F. Noncompetitive Procurement 727
G. Monitoring Construction 728
  1. Preconstruction Conference 729
  2. Project Management Conference 730
  3. Interim Inspection 731
  4. Construction Management Evaluation 732
    a. Grant Management 733
    b. Construction Management 733
  5. Final Inspection 734
H. Management of Claims and Change Orders 736
  1. Conditions that May Warrant a Change Order 737
    a. Differing Site Conditions 738
    b. Errors and Omissions 738
    c. Regulatory Changes 738
    d. Design Changes 739

PAGE

        e. Overruns and Underruns 739
        f. Time of Completion 739
    2. Claims 740
        a. Common Causes 741
        b. Prevention 741
        c. Resolution 742
        d. Allowable Costs 742
    3. Prior Approval 743
    4. Submission 744
    5. Change Order Review 745
I. Post-construction Activities 746
    1. Engineering Services during the First Year of Operation 746
        a. Scope of Engineering Services 747
        b. Procurement of Services 748
        c. Payment Requests 749
        d. Deficiencies 749
    2. Project Performance After One Year 749
        a. Certification 749
        b. Corrective Action 750

CHAPTER VIII. COMPLETION, AUDIT, AND CLOSEOUT 801

A. Introduction 803
B. Step 1 and Step 2 Completions 804
    1. Step 1 Projects Completed or near Completion 805
        a. Projects Likely to Receive a Step 2+3 or a Step 3 Grant 805
        b. Projects Unlikely to Receive a Step 2+3 or a Step 3 Grant 805
        c. Review of Facilities Plans for Completeness 806
            i. Facilities Planning Initiated before May 1, 1974 806
            ii. Facilities Planning Initiated after April 30, 1974 and before October 1, 1978 806
            iii. Facilities Planning Initiated after September 30, 1978 807
        d. Step 1 Grant Increases 808
        e. Reduction of Work Effort 808
            i. Reduction in Planning Area 809
            ii. Infiltration and Inflow 809
            iii. Public Participation 809
            iv. Cultural Resources 809
            v. Need Survey 809
            vi. Alternatives 809
            vii. Treatment Facilities 809

PAGE

viii. Sewer Design 809
ix. Sludge Disposal 810
x. Environmental Information Document 810
2. Step 2 Projects Completed or near Completion 810
a. Projects Likely to Receive a Step 3 Grant 810
b. Projects Unlikely to Receive a Step 3 Grant 810
c. Step 2 Grant Increases 811
d. Reduction of Work Effort 812
3. Delayed Step 1 and Step 2 Projects 812
4. Termination or Annulment 812
5. Other Step 1 and Step 2 Projects 813
6. Final Audit Requests 813
C. Step 2+3 and Step 3 Completions 814
1. Project Schedule 815
2. Phased or Segmented Projects 815
3. Sewer System Rehabilitation 816
4. Special Grant Conditions 817
D. Completion and Closeout Process 817
a. Project Completion 817
b. Administrative Completion 818
c. Audit Process 819
d. Project Closeout 819
1. Final Inspection 820
2. Cut-off Date 821
3. Cost Summary and Documentation 822
4. Final Building Payment Request 823
5. Property Management 824
6. Completion Delays 824
7. Continuing Engineering Services 825
8. Project Officer Certification 825
a. Aesthetic Features 826
b. Flow Level 826
c. Abandoned, Unused, or Inoperable Facilities 827
d. Project Files 827
9. File Retention 827
E. Audit Process 828
1. Request for Final Audit 830
2. Audit 831
3. Draft Audit Report 831
4. Final Audit Report 831
5. Resolution of Audit Exceptions 831
6. Review of Final Determination 832
7. Recovery of Funds 832

PAGE

CHAPTER IX. FINANCIAL CONSIDERATIONS 901

- A. Introduction 903
- B. Payments 903
  - 1. Outlay Schedules 904
  - 2. Payment Requests 904
    - a. Standard Form 270 904
    - b. Standard Form 271 905
  - 3. Initial Payments 907
    - a. Preaward Costs 907
    - b. Estimated Allowance 907
      - i. Step 2+3 Grants 907
      - ii. Step 3 Grants 908
  - 4. Retainage 908
  - 5. Limitations 909
  - 6. Final Building Payment 909
  - 7. Final Grant Payment 910
  - 8. Special Purpose Grants 910
    - a. Land Acquisition Grants 910
    - b. Relocation Assistance Grants 910
    - c. Grants to States for Advances of Allowance 910
    - d. Other Grants to States 911
  - 9. Grant Overpayment 912
  - 10. Grant Related Income 912
  - 11. Grants Information and Control System 912
- C. Grant Increases and Decreases 913
  - 1. Increases 913
    - a. Step 2+3 and Step 3 Grants 913
    - b. Step 1 and Step 2 Grants 914
    - c. Award Procedures 914
  - 2. Decreases 914
- D. Disputes 915
- E. Deviations 917
- F. Determination of Allowable Costs 918
  - 1. General 918
  - 2. Cost Principles 919
    - a. Allowability Factors for Government Agencies 919
    - b. Allowability Factors for Commercial Organizations 920
    - c. Allowability Factors for Other Organizations 921
      - i. Hospitals 921
      - ii. Educational Institutions 922
      - iii. Other Nonprofit Institutions 922
    - d. Classification of Costs 922
      - i. Direct Costs 922
      - ii. Indirect Costs 923

PAGE

3. Allowable and Unallowable Costs 925
4. 40 CFR Part 35, Subpart I, Appendix A 926
    A. Costs Related to Subagreements 926
        1. Allowable Costs 926
            a. Building the Project 926
            b. Complying with the Procurement Requirements 927
            c. Deciding Procurement Protests 927
            d. Using Minority and Women's Business Liaison Services 928
            e. Conformance with the Design Drawings and Specifications 928
            f. Negotiating the Settlement of a Claim 928
            g. Change Orders 931
            h. First Year Following Initiation of Operation 935
            i. Development of a Plan of Operation 935
            j. Start-up Services 935
        2. Unallowable Costs 935
            a. Preparing a Facilities Plan and the Design Drawings and Specifications 935
            b. Services Necessary to Correct Defects 936
            c. Defending Against a Contractor Claim 936
            d. Bonus Payments 938
            e. Costs of Delay 939
        3. Other Costs 940
            a. Liquidated Damages 940
            b. Bid Bond Forfeiture 941
            c. Public Liaison Services 941
            d. Professional Liability Insurance 941
            e. Services Required by Law 941
            f. Field Surveys to Identify Cultural Resources 942
            g. Travel Costs 943
    B. Mitigation 943
        1. Allowable Costs 943
            a. Direct, Adverse, Physical Impacts 943
            b. Site Screening 943
            c. Groundwater Monitoring Facilities 943
        2. Unallowable Costs 944
            a. Design Details which Require Expensive Building Techniques 944
    C. Privately or Publicly Owned Small and Onsite Systems 945

PAGE

- 1. Allowable Costs 945
  - a. Major Rehabilitation, Upgrading, Enlarging, and Installing 945
  - b. Conveyance Pipes 946
  - c. Treatment and Treatment Residue Disposal 946
  - d. Treatment or Pumping Units 946
  - e. Restoring Individual System Building Sites 946
- 2. Unallowable Costs 946
  - a. Modification to Physical Structure 946
  - b. Conveyance Pipes 946
  - c. Wastewater Generating Fixtures 946

D. Real Property 947

- 1. Allowable Costs 947
  - a. Integral Part of the Treatment Process 947
  - b. Complying with the Requirements of Uniform Relocation Assistance and Real Property Acquisition Policies Act 947
  - c. Required Acquisition and/or Relocation Services 949
  - d. Preparation of the Treatment Works Site 949
  - e. Existing Publicly or Privately Owned Wastewater Treatment Works 950
- 2. Unallowable Costs 950
  - a. Sewer Rights of Way, Waste Treatment Plan Sites (Including Small System Sites), Sanitary Landfill Sites, and Sludge Disposal Areas 950
  - b. Eligible Land in Excess of Just Compensation 950
  - c. Removal, Relocation, or Replacement of Utilities 950

E. Equipment, Materials, and Supplies 951

- 1. Allowable Costs 951
  - a. Reasonable Inventory of Laboratory Chemicals and Supplies 951
  - b. Biological Seeding Materials 951
  - c. Shop Equipment 951
  - d. Safety Equipment 951
  - e. Collection System Maintenance Equipment 952
  - f. Mobile Equipment 952
  - g. Replacement Parts 953

PAGE

- 2. Unallowable Costs 953
  - a. Violation of the Procurement Requirements 953
  - b. Office Equipment 953
  - c. Building Maintenance Equipment 953
  - d. Vehicles 954
  - e. Items of Routine "Programmed" Maintenance 954
- F. Industrial and Federal Users 954
  - 1. Allowable Costs 954
  - 2. Unallowable Costs 955
- G. Infiltration/Inflow 955
  - 1. Allowable Costs 955
  - 2. Unallowable Costs 956
- H. Miscellaneous Costs 956
  - 1. Allowable Costs 956
    - a. Salaries, Benefits, and Expendable Materials 956
    - b. Meeting Specific Federal Statutory Procedures 956
    - c. Travel 957
    - d. Additions 957
    - e. Royalties 958
    - f. Multiple Purpose Projects 959
    - g. Training 959
  - 2. Unallowable Costs 959
    - a. Ordinary Operating Expenses 959
    - b. Applications and Permits 959
    - c. Establishment of Special Departments, Agencies, Commissions, Regions, Districts, or Other Units of Government 959
    - d. Sale of Bonds 960
    - e. Reconstruction 960
    - f. Personal Injury Compensation 960
    - g. Fines and Penalties 960
    - h. Costs outside the Scope of the Approved Project 960
    - i. Costs for Which Grant Payment Has Been or Will Be Received from Another Federal Agency 960
    - j. Control of Pollutant Discharges from a Separate Storm Sewer System 960
    - k. Environmentally Sensitive Land 960
    - l. Corrective Action Report 961
  - 3. Other Costs 961
    - a. Administration Building 961
    - b. Computers 962

INDEX 1001
CONSTRUCTION GRANTS PROCESS 1101

LIST OF ILLUSTRATIONS

PAGE

Figure 1. Water Quality Planning and Management 222
Figure 2. Construction Grants Process 1103

Table 1. Wastewater Treatment System Reliability 524
Table 2. Sludge Handling and Disposal System Reliability 525
Table 3. Electric Power System Reliability 526

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LIST OF ACRONYMS

Except for the most commonly used acronyms (e.g., EPA), each acronym, when first introduced in a chapter of the Handbook, is preceded by the unabbreviated phrase to which it corresponds. However, since the Handbook is intended to function primarily as a reference document, many users will not read it "cover to cover." For their convenience, a list of all acronyms is provided below.

ACHP	United States Advisory Council on Historic Preservation
ADBF	Average daily base flow
AJE	Alternative justifiable expenditure
AT	Advanced treatment
B/C	Biddability and constructibility
BOD	Biochemical oxygen demand
BOD_5	Five day biochemical oxygen demand
BPWTT	Best practicable waste treatment technology
CAPDET	Computer Assisted Procedure for Design and Evaluation of Wastewater Treatment Systems
$CBOD_5$	Five day carbonaceous biochemical oxygen demand
CEQ	United States Council on Environmental Quality
CFR	Code of Federal Regulations
CG	Construction Grants (series of policy documents)
CI	Construction incentive
CME	Construction management evaluation
COD	Chemical oxygen demand
COE	United States Army Corps of Engineers
CPP	Continuing planning process

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CSO	Combined sewer overflow
CWA	Clean Water Act
DHHS	United States Department of Health and Human Services
DOL	United States Department of Labor
DOT	United States Department of Transportation
EID	Environmental information document
EIS	Environmental impact statement
EPA	United States Environmental Protection Agency
F/M	Food to micro-organism (ratio)
FMO	Financial Management Office
FONSI	Finding of no significant impact
FP	Facilities Planning (policy document)
FR	Federal Register
GICS	Grants Information and Control System
gpcd	Gallons per capita per day
GSA	United States General Services Administration
I/A	Innovative or alternative
I/I	Infiltration and inflow
MBE/WBE	Minority and women's business enterprises
mg/l	Milligrams per liter
MLSS	Mixed liquor suspended solids
M/R	Modification or replacement
N/A	Not applicable
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System

OIG	Office of the Inspector General
O&M	Operation and maintenance
OMB	United States Office of Management and Budget
OM&R	Operation, maintenance, and replacement
PG	Program Guidance Memorandum
pH	Measure of acidity
PL	Public Law
PMC	Project management conference
POM	Program Operations Memorandum
POTW	Publicly owned treatment works
PRM	Program Requirements Memorandum
RA	Regional Administrator
RFP	Request for proposals
RFQ	Request for qualifications
SAWS	Small alternative wastewater system
SF	Standard Form
SHPO	State Historic Preservation Officer
SPDES	State Pollutant Discharge Elimination System
SS	Suspended solids
SUO	Sewer use ordinance
TM	Transmittal Memorandum
UC	User charge
VE	Value engineering
WQM	Water quality management

CHAPTER I

INTRODUCTION

A. INTRODUCTION

B. PURPOSE

C. METHODOLOGY

D. ORGANIZATION AND CONTENT

E. LEGISLATIVE HISTORY

F. STATE DELEGATION

A. INTRODUCTION

The organization and contents of the Handbook of Procedures and its use in the administration of the construction grants program are covered in this introductory chapter. In addition, because of the vastly expanded role of State agencies in the operation of the construction grants program, this chapter also includes a discussion on delegation and EPA's role in overseeing delegated activities.

Section B, Purpose, describes the purpose of the Handbook and its intended uses.

Section C, Methodology, describes the procedures which were used to develop the Handbook and to review its contents to insure its accuracy and usefulness.

Section D, Organization and Content, discusses the history, format, and content of the third edition of the Handbook.

Section E, Legislative History, outlines the legislative developments which form the basis for the regulations, policies, and procedures which govern the construction grants program.

Section F, State Delegation, describes the relationship between EPA and the State agencies, to which most of the functions described in this Handbook have been delegated.

B. PURPOSE

This Handbook of Procedures identifies and explains the many procedures to be followed by project reviewers and other personnel in State agencies and EPA Regional Offices who are responsible for the conduct of the construction grants program. It is intended to serve as a guide in processing grant applications for Step 2+3 and Step 3 projects as of October 1, 1984. A companion document, "Construction Grants 1985" (CG-85), has been written for potential grant applicants and grantees.

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The Handbook is not intended to introduce new requirements into the construction grants program, since requirements are set forth only in the EPA regulations. Rather, regulatory requirements and EPA program policies, necessary for effective program management, have been restated so that they can be understood in terms of operating procedures. Requirements and policies are presented in a sequence which closely tracks the development of a project, and are supplemented by suggested approaches and procedures which historically have been effective in processing and managing grant assisted projects. In the unlikely event of a conflict between the Handbook and the regulations, the regulations take precedence.

The operational tasks and procedures described throughout the Handbook are applicable to the construction grants program as a whole. They are intended to serve as a standard so that this complex, multifaceted program can move forward as a national program, uniformly administered. At the same time, the operational tasks and procedures are patterned to provide flexibility, so that State agencies and EPA Regional Offices may jointly administer an effective program, with variations in State conditions reflected in State/EPA delegation agreements.

Through the thoughtful application of the procedures described in this Handbook, water pollution control goals, to which EPA and the States are dedicated, can be more effectively achieved.

C. METHODOLOGY

The Handbook, including the revisions reflected in this edition, was prepared under the direction of EPA's Office of Water Program Operations, Municipal Construction Division.

The basic organization of the Handbook and the initial drafts of its contents were prepared under contract by Roy F. Weston, Inc., through its subcontractor, A. T. Bowyer, Inc.

The initial drafts of each chapter were reviewed by a special task force comprised of Headquarters, Regional, and State representatives. Albert L. Pelmoter, Chief, Program Policy Branch, Municipal Construction Division, was the project manager for the preparation of the Handbook, served as chairman of the Handbook task force, and was responsible for the Handbook's overall development, review, and production. Thomas J. Moran, Senior Engineer, Program Policy Branch, served as task manager and was responsible for editing the Handbook and reviewing and incorporating comments received during the reviewing process. Tod A. Gold, Attorney-

Advisor, Program Policy Branch, verified the citations of regulations and policy documents, and also assisted in the review and editing of its contents. Sheila Hoover, Grants Assistant, Program Policy Branch, was responsible for formatting and typing the final document for printing.

Membership on the task force included James Brooks (Region VIII), Steven Burkett (Region VI), Preston Clark and Robert Hampston (New York State), Jon Craig (Oklahoma), Kirk Lucius and Virginia Tobin (Region IV), Earl Quance and John Milnor (Maryland), Richard Salkie (Region II), and John Stetson (Washington State). As part of their overall review efforts, this group met with the subcontractor and the staff of the Program Policy Branch to develop uniform positions on proposed new and revised procedures. In addition, drafts of the chapters were reviewed by the other six EPA Regional Offices, by several other States, and by numerous other EPA Headquarters offices.

D. ORGANIZATION AND CONTENT

1. History

The Handbook of Procedures (MCD-03) was first published in February 1976, and took into account the laws, regulations, and policies in effect as of July 1, 1975. Subsequently, three transmittal memoranda (TMs), updating the Handbook, were issued to reflect policy changes occurring after the original text was published.

The second edition, published in 1980, reflected changes brought about by the Clean Water Act of 1977 (PL 95-217), and included laws, regulations, and policies in effect as of October 1, 1979. No TMs were issued for the second edition.

On December 29, 1981, Congress enacted the Municipal Wastewater Treatment Construction Grants Amendments of 1981 (PL 97-117), which amended earlier legislation and mandated significant changes in the conduct of the construction grants program. These changes necessitated the publication of this completely revised third edition of the Handbook.

This third edition of the Handbook of Procedures replaces earlier editions and reflects laws, regulations, and EPA policies in effect as of October 1, 1984.

2. Organization

Each chapter of the Handbook is intended to cover a general review phase of a construction grant project and, to the extent possible, is placed in the sequence in which the review takes place. Chapter II, "Water Quality Planning," discusses those planning activities conducted by the States which directly relate to the construction grants program. This chapter also highlights the new simplified water quality planning regulations (40 CFR Part 130). Chapter III, "Preapplication Management," emphasizes project management in addition to the dissemination of information to potential grant applicants.

Although Step 1 and Step 2 grants are no longer awarded, facilities planning and project design activities must still be reviewed prior to the award of Step 3 grants. Accordingly, review procedures for these areas are discussed in Chapter IV, "Facilities Planning," and Chapter V, "Design".

Chapter VI, "Grant Processing," includes all requirements for grant award, and discusses combined sewer overflows (CSOs), land acquisition, field testing of innovative and alternative (I/A) technologies, and I/A modification or replacement (M/R) grants in separate sections. Chapter VII, "Construction," discusses all activities associated with building the project, including procurement, monitoring of construction, and post construction activities during the first year after project completion.

Chapter VIII, "Grant Completion, Closeout and Audit," provides guidance on completing and closing out old as well as new grants. Chapter IX, "Financial Considerations," includes new sections on disputes and deviations, and, in the last section, 40 CFR Part 35, Subpart I, Appendix A, "Determination of Allowable Costs," is reproduced along with clarifying information and examples where appropriate.

Cross-references are frequently made in the text to other sections of the Handbook. A reference to "Section V.C.1.a," refers to Chapter V, Section C, Item 1.a.

3. Format

Each function and activity described in this Handbook is an integral part of the construction grants program and is necessary to insure compliance with statutory or program requirements. Individual functions are presented in the following format:

Purpose:

A brief explanation of the need for the function is given.

Discussion:

The function is placed in program perspective and information is given on such topics as general operating policy, important underlying issues, key considerations in approaching the function under review, and how the function relates to other aspects of the construction grants program.

Procedures:

The procedures for reviewing documents submitted and activities conducted by applicants and grantees are briefly described. Frequently, for presentation purposes, processing procedures for administrative and technical functions are addressed separately. However, whenever possible, the review of both functions should take place simultaneously. Where specific program items are required, they are listed. Other more general review items are also included as a reminder. However, the review procedures listed here are not substitutions for, nor do they supersede, the requirements described in the regulations. Checklists developed by State agencies or EPA Regional Offices and contained in delegation agreements are also to be used in performing the review process.

References:

Appropriate laws, regulations, guidelines, and technical documents are cited. Copies of such reference material can generally be found in EPA Regional or State agency offices.

Some of the review procedures are self-explanatory or do not lend themselves to the above format. In these cases, the requirements or procedures are briefly described.

4. Regulations

This third edition of the Handbook is based on regulations in effect as of October 1, 1984, primarily those contained in Title 40 of the Code of Federal Regulations (CFR). The following regulations are cited at appropriate locations in the Handbook:

a. 40 CFR Parts

4 - Implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

6 - Implementation of Procedures on the National Environmental Policy Act

7 - Nondiscrimination in Programs Receiving Federal Assistance from the Environmental Protection Agency

15 - Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans

25 - Public Participation in Programs Under the Resource Conservation and Recovery Act, the Safe Drinking Water Act, and the Clean Water Act

29 - Intergovernmental Review of the Environmental Protection Agency Programs and Activities

30 - General Regulation for Assistance Programs

32 - Debarment and Suspension under EPA Assistance Programs

33 - Procurement Under Assistance Agreements

35 - State and Local Assistance

    Subpart A - Financial Assistance for Continuing Environmental Programs

    Subpart E - Grants for Construction of Treatment Works - Clean Water Act

    Subpart I - Grants for Construction of Treatment Works

    Subpart J - Construction Grants Program Delegation to States

52 - Approval and Promulgation of Implementation Plans

60 - Standards of Performance for New Stationary Sources

61 - National Emission Standards for Hazardous Air Pollutants

122 - National Pollutant Discharge Elimination System

125 - Criteria and Standards for the National Pollutant Discharge Elimination System

130 - Water Quality Planning and Management

131 - Water Quality Standards

133 - Secondary Treatment Information

141 - National Interim Primary Drinking Water Regulations

149 - Review of Projects Affecting the Edwards Underground Reservoir, a Designated Sole Source Aquifer in the San Antonio, Texas Area

257 - Criteria for Classification of Solid Waste Disposal Facilities and Practices

261 - Identification and Listing of Hazardous Waste

403 - General Pretreatment Regulations for Existing and New Sources of Pollution

b. Other Regulations

15 CFR Part 930 - Federal Consistency with Approved Coastal Management Programs

36 CFR Part 63 - Determinations of Eligibility for Inclusion in the National Register of Historic Places

36 CFR Part 800 - Protection of Historic and Cultural Properties

45 CFR Part 84 - Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance

48 CFR Part 31 - Contract Cost Principles and Procedures

49 CFR Parts 171 through 177 - Hazardous Materials Regulations

5. Policy Memoranda

Earlier editions of the Handbook included references to Program Guidance Memoranda (PGs) and Program Requirements Memoranda (PRMs). The PRM series replaced the PG series, and was supplemented by Program Operations Memoranda (POMs), which discussed internal EPA operational matters rather than policy issues. In July 1982, "Construction Grants 1982" (CG-82) was published and stated in its foreword, "Upon publication of CG-82, all PRMs and POMs are cancelled ...." This statement effectively terminated the codified field communication system between Headquarters, Regions, and States and replaced it with the periodic publication of the construction grants (CG) series.

Since both the CG series and the Handbook are based on information contained in the same regulatory, policy, and guidance documents, references in the Handbook seldom cite CG-85. Rather, source documents, from which statements in both texts are drawn, are cited to better assist project reviewers in their research efforts.

6. State Requirements

The contents of the Handbook reflect only Federal requirements for the construction grants program. Many States have laws, regulations, or policies which supplement Federal requirements, and in some cases may be more stringent. Where such cases exist, it is assumed that during delegation negotiations, differences will be resolved by the States and EPA to insure that State requirements will not circumvent the spirit or intent of Federal requirements. It is important for State project reviewers to be conversant with supplemental State requirements and insure that they are carried out by grant applicants and grantees.

In general, supplemental State requirements may be approved as judged appropriate by EPA as part of the delegation process, except in the area of grantee procurement, where strict requirements have been imposed on all Federal agencies by Attachment O to Office of Management and Budget (OMB) Circular A-102. The intent of Attachment O is to give grantees maximum flexibility in the procurement of goods and services, and to generally eliminate most advance approvals. Supplemental State requirements which affect grantee procurement may only be approved by EPA if all of the following conditions are met:

- the requirements are established by State law, rather than by regulations or policy documents;

- the requirements apply to all public construction projects in the State, regardless of the source of funds (e.g., a requirement that all public projects be advertised as separate contracts for mechanical, plumbing, electrical, and general construction); and

- the requirements do not directly conflict with Federal laws or regulations.

Those States which have supplemental State grant programs may impose additional grantee requirements without regard to the above restrictions, provided that:

- they do not directly conflict with Federal laws and regulations, and

- they do not apply to Federal grantees who do not receive a supplemental State grant.

7. Related Materials

The review procedures in this Handbook describe the essential or minimum requirements necessary in processing construction grant applications and related documents. More detailed information may be obtained by reading the reference materials which are identified throughout the text. Generally, references concerning technical matters have been limited to EPA publications.

Although the processing steps set forth in the Handbook are intended to bring about uniformity in the processing of construction grant applications nationwide, differences in the structure of EPA Regional Offices, State agency offices, or delegation agreements may require some adjustment in the manner in which various review procedures are followed.

8. Updating

This Handbook reflects requirements contained in the regulations as of October 1, 1984. The Handbook will be updated to reflect changes in laws, regulations, and policies. Responsibility for revising and updating the Handbook resides with the Program Policy Branch, Municipal Construction Division, Office of Water Program Operations, and revisions will be issued from that office.

Handbook revisions will be forwarded by a TM. Each TM will be designated with a sequential number (e.g., TM 85-11), indicating the fiscal year and number of the issuance, and will provide specific instructions for removal of obsolete and insertion of new pages. In order for changes to be readily identified, text revisions will be printed in italics. Additionally, each revised page will show the number of the TM which transmitted the revision.

E. LEGISLATIVE HISTORY

The Federal Water Pollution Control Act of 1956 (PL 84-660) represented the first authorization for Federal grants to assist in the construction of waste treatment works. (A 1948 loan program was authorized, but never funded.) Selection of projects to be funded resided with the States, reflecting the policy of Congress to recognize and preserve the primary responsibility of the States to prevent and control water pollution. The 1956 Act authorized fifty million dollars per year, with grants limited to 30 percent of the eligible project cost, not to exceed $250,000 per project.

Authorizations were increased during the early 1960's, with major amendments occurring in 1965. At that time, authorizations were again increased, the maximum dollar limitation on grants was dropped, the Federal share was increased to a maximum of 55 percent, and provision was made for future reimbursement of State or local funds used in lieu of Federal funds.

Between 1965 and 1972 other initiatives were undertaken, the most important of which were the enactment of the National Environmental Policy Act (NEPA) in 1969 and the creation of EPA in 1970.

Enactment of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) resulted in extensive changes to the construction grants program. The Federal share was increased to 75 percent and project eligibility was expanded to include sewage collection systems, sewer system rehabilitation, and correction of CSOs. In addition, the 1972 Amendments mandated a strong enforcement program, statewide planning, areawide planning, and the issuance of discharge permits.

The 1972 Amendments also introduced the three-step grant process (e.g., Step 1 - planning, Step 2 - design, and Step 3 - building). Under the Act, grantees were required to provide a minimum of secondary treatment to be eligible for a Federal grant. New concepts were introduced such as facilities planning, infiltration/inflow (I/I) analysis, assessment of environmental impacts, user charge (UC) systems, industrial cost recovery, cost effectiveness, best practical waste treatment technology (BPWTT), etc. The Act also authorized $18 billion over a five year period to support the construction grants program and to provide for a continuity of funding.

The Clean Water Act of 1977 (PL 95-217) contained mid-course corrections to the 1972 legislation and authorized $24.5 billion over a five year period in support of the construction grants program. Several significant changes were introduced into the construction grants program, one of which required grantees to evaluate I/A technologies when planning their projects. The mandatory I/A evaluations conveyed the desire of Congress to bring about conservation through recycling and more efficient energy use or recovery. For approved I/A projects, the Federal grant share could be increased to 85 percent.

Another significant provision of the 1977 Amendments was the encouragement of, and financial support for, States to administer the construction grants program. Under this provision, the EPA Regional Administrators (RAs) were able to negotiate delegation agreements with the State agencies, detailing the staffing, scheduling, functions, and procedures to be used by the State in program administration.

The Municipal Wastewater Treatment Construction Grant Amendments of 1981 (PL 97-117) eliminated Step 1 and Step 2 grants after December 29, 1981, and replaced them with an allowance to help defray the costs of planning and design. Other provisions reduced the Federal grant share to 55 percent after September 30, 1984; eliminated grants for collection sewer systems, major sewer rehabilitation, and correction of CSOs after September 30, 1984 (except under certain conditions); required States to reevaluate their water quality standards; emphasized low cost alternatives, particularly for small communities; limited the eligibility of reserve capacity; required engineering services to be provided for one year after project completion; and required each grantee to certify, one year after initiation of operation, whether the project is meeting its performance standards.

The Handbook reflects the provisions of the 1981 Amendments and its implementing regulations. Projects receiving grants prior to the 1981 Amendments are subject to the policies and regulations in effect at the time of grant award and, therefore, are not necessarily subject to the review procedures and regulatory requirements contained in this Handbook.

Although the authorizing legislation for the construction grants program is officially entitled the Federal Water Pollution Control Act, Section 518 of the Act provides for the use of the title Clean Water Act (CWA), and this latter title is used throughout the Handbook.

F. STATE DELEGATION

1. General

The 1977 Amendments added Section 205(g) to the CWA, authorizing EPA to use a portion of each State's annual allotment of construction grants funds to award grants to the States to administer the day-to-day operations of the construction grants program. The grants are for 100 percent of the eligible operational costs. Under EPA regulations adopted in 1978, the execution of a delegation agreement between an RA and a comparable level State official provides the basis for a construction management assistance grant (frequently called a 205(g) grant). The purpose of the agreement is to describe, in specific terms, the relative roles of the State and EPA in the management of the construction grants program in that State.

Delegation agreements were developed and negotiated on a "phase in" basis. That is, once the many specific functions of the program to be delegated were identified, a timetable was established for transferring (i.e., delegating) those functions. Each function was delegated only after the Region determined that the State had trained staff in sufficient numbers to effectively perform that function without direct assistance from the Region.

All agreements describe the procedures to be followed in implementing each function and the forms to be completed by the States as evidence that each function has been fully performed. Periodically, EPA reviews each State's program and representative grant projects, to insure that each function is being carried out in accordance with the delegation agreement.

Since 1977, forty-nine States and the Commonwealth of Puerto Rico have entered into delegation agreements with EPA. During those years, considerable experience has been gained concerning the form of delegation agreements, the respective roles of each agency, and the most practical and efficient management implementation practices. Because of the attention to detail and mutual concern continuously exercised by EPA Headquarters, the Regions, and the States during this period of transition, the goal of achieving full delegation of the construction grants program to the States is close to being realized.

Regulations implementing State delegation are found primarily in three subparts to 40 CFR Part 35:

Subpart A - Financial Assistance for Continuing Environmental Programs. This subpart deals primarily with grants for State water pollution control programs under Section 106 of the CWA, for State management of the construction grants program under Section 205(g) of the CWA, and for water quality management (WQM) planning under Section 205(j) of the CWA.

Subpart I - Grants for Construction of Treatment Works. This subpart deals with grant requirements for building wastewater treatment works.

Subpart J - Construction Grants Program Delegation to States. This subpart addresses the requirements for delegation agreements, oversight, and grants to States to perform delegated functions, in accordance with Section 205(g) of the CWA.

In addition, "Construction Grants Delegation and Overview Guidance," dated December 1983, was prepared by EPA to integrate in one document the relevant regulatory requirements, policies, and guidance for managing the delegated program. The sections below briefly summarize relevant aspects of this publication. Program managers responsible for delegation should consult the text for specific details.

2. Delegation Agreements

Delegation agreements, which vary from Region to Region with regard to specific procedural requirements, generally contain two main parts:

a. Basic or "Umbrella" Agreement

This part of the delegation agreement sets forth the basic commitments between the State and the EPA Regional Office, and defines the operational framework for accomplishing those commitments. In addition, it covers specific operational items such as scheduling, cost information, hiring and training, accounting methods, and level of effort.

b. Functional Agreements or Subagreements

Along with the basic agreement are a series of individual agreements describing each function or activity (or group of activities) to be delegated. These agreements contain information which State reviewers are expected to be familiar with and use, including the procedures to be followed in reviewing project documents and conducting grant activities, the interface with the Regional Office and other Federal and State offices, and the criteria to be used in evaluating the effectiveness of State grant program activities. The format of functional agreements may vary (e.g., checklists and/or evaluation procedures may be separated from review documents, and included separately as a supplement or appendix).

Functional agreements are critical to the operation of the construction grants program and need to be kept current. That is, as improvements in procedures are developed, as regulations are revised, and as guidance documents are changed, modifications to the agreements will be necessary. Such revisions can be formally adopted by approvals at the State and EPA program manager's level (e.g., Division Directors or Branch Chiefs). It should be noted that one of the purposes of this Handbook is to help bring about general agreement on current review procedures so that they can be more uniformly practiced among the States.

Re: 40 CFR 35.3005, 35.3010

3. Delegated Functions

Earlier regulations included a listing of functions which could be delegated to the States and those functions which because of statutory requirements could not be delegated. Current regulations do not contain these specific listings, but rather indicate that all functions may be fully delegated to the States, except those for which EPA must retain responsibility under Federal law. Statutory requirements continue to preclude full delegation of the following functions:

- approval of grant awards, grant amendments, payments, and terminations;
- final determinations under Federal statutes and Executive Orders (e.g., NEPA determinations, and determinations of compliance with Title VI of the Civil Rights Act);
- final resolution of audit exceptions;
- procurement determinations concerning procurement system reviews and protests; and
- projects where an overriding Federal interest requires greater Federal involvement.

However, States are encouraged to undertake all project-level activities, including preliminary determinations for nondelegable requirements. Preliminary determinations by States will usually include the preparation of all documentation in anticipation of EPA's approval and signature. A summary chart containing delegable and shared activities, their legal or administrative citations, and brief comments on State/EPA roles is contained in Appendix A to EPA's publication "Construction Grants Delegation and Overview Guidance," dated December 1983. That same publication, on pages 28 through 31, contains a clarification of the delegability of those activities whose delegability previously had been uncertain.

The EPA guidance also contains a partial listing of project conditions for which there may be an overriding Federal interest, thereby precipitating EPA involvement. The project conditions include:

- projects subject to an Environmental Impact Statement (EIS);
- projects subject to special and/or complex eligibility considerations;
- projects which are the subject of unusually strong Congressional interest;

- projects involved in Federal court cases or subject to other directives (e.g., consent decrees, ocean dumping restrictions, international agreements) that EPA must administer despite delegation;

- projects involved in law enforcement investigations or in allegations of waste, misuse, or mismanagement of Federal funds;

- projects subject to review of advanced treatment with an incremental cost in excess of $3 million;

- projects for which a marine discharge waiver request has been submitted to EPA; and

- projects having interstate or international impacts that go beyond State jurisdiction.

Re: 40 CFR 33.001(g), 35.3015(a) and (c)

4. EPA Oversight

EPA maintains overall responsibility for insuring that Federal requirements are adhered to and that progress toward national goals and objectives is maintained. In carrying out this responsibility, EPA conducts an annual evaluation of each delegated State program. The purpose of this evaluation is to insure that both the delegated State and EPA efficiently and effectively execute their respective fiscal and program responsibilities.

The annual evaluation consists of three steps, namely:

a. Developing the Plan for Oversight

Each year EPA and the State establish, in advance, priority objectives, key measures of performance, and monitoring and evaluation activities.

b. Negotiating Annual Outputs

In keeping with the oversight plan, EPA and the State negotiate and agree upon specific outputs which correspond to priority objectives for the year.

c. Monitoring and Evaluating Program Performance

As part of the oversight plan and to confirm annual outputs, EPA monitors and evaluates each State's performance under delegation. An onsite evaluation is conducted annually, and additional monitoring activities, as appropriate for each delegated State, are conducted as needed.

Carefully structured and conducted, the annual evaluation should help to solidify the sense of partnership existing between EPA and the delegated States and effectively complement the ongoing dialogue between each State and the EPA Region which is critical to the successful implementation of the delegation program.

Re: 40 CFR 35.3025; EPA publication, "Construction Grants Delegation and Overview Guidance," December 1983.

5. U.S. Army Corps of Engineers

EPA entered into an interagency agreement with the U.S. Army Corps of Engineers (COE) at the national level, under which the COE provides assistance in administering portions of the construction grants program. The specific functions being carried out by the COE are identified in regional interagency agreements developed between EPA Regional Offices and the corresponding COE Division offices. COE responsibilities and procedures vary from Region to Region, and serve as a supplement to a State's delegation agreement (i.e., in some States, the COE performs functions which are not delegated to the State until such time as the State is able to assume those functions, while in other States, the COE performs functions which have been delegated, but not yet assumed by the State).

COE functions may range from limited onsite inspection services to total project management responsibilities which begin as soon as the grantee has accepted the grant offer. In many States, the COE conducts biddability/constructibility reviews of contract documents, including plans and specifications (see Section V.C.3). On very large projects or clusters of projects (e.g., where the building costs exceed $50 million), the COE may provide full-time onsite presence. Project reviewers should be aware of the contents of EPA/COE agreements in their respective States, including specific procedures and documentation requirements.

It is EPA's long term goal to have each delegated State assume those activities now being performed by the COE as soon as the State is able to do so. However, where temporary shortages in staff resources exist in a delegated State, the State may request, through EPA, COE assistance in carrying out program functions for an interim period.

Re: EPA publication, "Operating Procedures for Monitoring Construction Activities at Projects Funded under the Environmental Protection Agency's Construction Grants Program," September 1983; EPA publication, "Guidelines for Overviewing Construction Grant Activities Conducted under the Interagency Agreement with the Corps of Engineers," February 1984.

CHAPTER II

WATER QUALITY PLANNING

A. INTRODUCTION

B. DEFINING WATER QUALITY

C. WATER QUALITY MANAGEMENT PLANNING

D. IMPLEMENTING THE WATER QUALITY MANAGEMENT PLAN

E. FUNDING THE CONSTRUCTION GRANTS PROGRAM

F. SUMMARY OF THE PLANNING PROCESS

A. INTRODUCTION

The discussion in this chapter is limited to those aspects of water quality planning which are relevant to the construction grants program. It is designed to provide the project reviewer with background information and a general working knowledge of the management and planning processes required by the Clean Water Act (CWA) and its implementing regulations. The principle function of each planning activity is highlighted, placed in perspective, and related to its impact on the construction grants program.

Section B, Defining Water Quality, discusses the procedures used in setting water quality goals and standards, in monitoring water quality, and in relating current water quality to the goals and standards.

Section C, Water Quality Management Planning, describes the planning processes which are used to produce management plans for achieving water quality goals and standards.

Section D, Implementing the Water Quality Management Plan, describes the implementation of the plan through EPA's municipal policy, permit program, and facilities planning requirement.

Section E, Funding the Construction Grants Program, discusses the mechanisms for making funds available to the construction grants program, for prioritizing projects, and for setting aside funds in reserves for specific purposes.

Section F, Summary of the Planning Process, summarizes the steps in the planning process in a list of activities, followed by a schematic flow diagram.

B. DEFINING WATER QUALITY

1. Water Quality Goals and Standards

Water quality goals, which are the basis for all activities authorized under the CWA, represent value judgements articulated by Congress in Title I of the CWA. The water quality goals of the CWA may be summarized as: protection and propagation of fish, shellfish, and wildlife; provision for recreation in and on the water wherever attainable; restoration and maintenance of the chemical, physical, and biological integrity of the Nation's

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waters; prohibition of toxic substances in toxic amounts; protection of public health and welfare; and reduction of water pollutants from nonpoint sources to the maximum extent feasible.

To translate water quality goals into objective, measurable terms, water quality standards are established by the States. Water quality standards implement the water quality goals for a water body or portion thereof by setting standards necessary to achieve these goals. These standards serve as the legal basis for water pollution control decisions (e.g., treatment levels, National Pollutant Discharge Elimination System (NPDES) permit effluent limitations, and enforcement actions).

Water quality standards have been established by the States and approved by EPA for practically all of the Nation's water bodies. However, Section 24 of the 1981 CWA amendments required the States to reevaluate their water quality standards and, where necessary, to revise them to reflect current and realistic goals and uses. Construction grant assistance may not be provided in States which fail to conduct such water quality standards reevaluation by December 29, 1984 (see Section VI.D.11). The establishment and revision of water quality standards is subject to the public participation requirements of 40 CFR Part 25.

Re: 40 CFR 130.0, 130.3; 40 CFR Part 131

2. Water Quality Monitoring

Once a State establishes water quality standards, the State is required to implement a water quality monitoring program which includes the collection and analysis of physical, chemical and biological data on water quality. This data is used by the State to evaluate the effectiveness of its water quality management (WQM) program, to determine abatement and control priorities, to develop or revise water quality standards, to develop total maximum daily loads and wasteload allocations, to assess compliance with NPDES permits, and to prepare reports which assess the trends in water quality.

Water quality monitoring programs must include quality assurance and quality control programs to insure that collected data are scientifically valid. The monitoring program provides a scientific basis for the preparation of abatement and control reports and for the designation of priority water quality areas.

Re: 40 CFR 30.503, 130.4

3. Water Quality Report

Section 305(b) of the CWA requires each State to report to EPA the status of water quality within the State and the programs underway or needed to attain water quality goals. The water quality report (frequently called a 305(b) report) is prepared every two years, and for the years submitted, fulfills the annual water quality reporting requirements under Section 205(j) of the CWA. For the years when the water quality report is not submitted, States may satisfy the annual reporting requirements under Section 205(j) by certifying that the most recently submitted report is current, or by submitting an update of the outdated sections of the most recently submitted report.

The water quality report serves as the State's primary problem assessment document, and thus provides basic input to the State's planning and implementation activities. The report must include recommendations for current and future WQM activities and other information needed to address problems in priority water quality areas such as:

a. a description of present water quality and the extent to which it meets the goals of the CWA;

b. an estimate of the extent to which control programs have or will improve water quality;

c. an estimate of the environmental, economic, and social costs and benefits of achieving the objectives of the CWA and an estimate of the date of such achievement; and

d. a description of the nature and extent of nonpoint source pollution and recommendations for programs, including costs, to control nonpoint sources.

Re: 40 CFR 130.8

C. WATER QUALITY MANAGEMENT PLANNING

1. General

The objective of this section is to acquaint project reviewers with the many complex and interrelated planning activities which impinge upon construction grants projects, and with the considerable information that very often has been developed for a project or planning area before the construction grants process begins.

By being aware of existing information or data, the project reviewer can advise potential grant applicants of its existence, thereby reducing planning costs and shortening the time required for project completion.

The thrust of all WQM planning activities required under the CWA is to improve water quality. WQM planning activities must result in the development of optimum WQM plans, which will be consistent with the need to protect public health and to achieve the water quality goals of the CWA.

Although the States are primarily responsible for the accomplishment of WQM planning, actual State involvement in the planning process varies widely. In some States, the State agency conducts all WQM planning activities directly, while in others, planning activities are directed and coordinated by the State agency, and are carried out by areawide, interstate, regional, and/or local water quality planning agencies. In many States, the State agency performs some of the planning activities, and assigns others to areawide, interstate, regional, and/or local agencies. EPA provides grant assistance for these activities, and requires planning grant applicants to submit proposed work plans, schedules, and budgets for EPA approval prior to grant award, in order to insure efficient management and proper use of grant funds.

2. Continuing Planning Process

The continuing planning process (CPP) describes the methodology used by each State in making water quality decisions, including the development of:

a. effluent limitations and schedules of compliance;

b. elements of areawide waste management plans and basin plans;

c. total maximum daily loads for pollutants;

d. revisions to WQM plans;

e. an inventory and ranking, in the order of their priority, of needs for the construction of waste treatment works;

f. procedures for obtaining adequate authority for municipalities which will build treatment facilities, including mechanisms for obtaining intergovernmental cooperation from subscriber communities;

g. procedures for the implementation of new or revised water quality standards, including schedules of compliance;

h. adequate controls over the disposition of all residuals from water treatment processing.

The CPP is a process, not an end in itself. It allows new or changed activities to be properly integrated into the entire WQM program, while taking into account the activity's impact on other programs and water quality control decisions.

The regulations emphasize the importance of effective processes which contribute to managing the implementation of water quality decisions. Since 1972, each State has maintained a CPP, and has periodically updated it to meet changing needs and regulatory requirements.

Re: 40 CFR 130.5

3. Water Quality Management Plans

WQM plans provide the framework for managing water quality on an ongoing basis. They consist of initial plans produced in accordance with Sections 208 and 303(e) of the CWA, as well as approved updates to those plans. WQM plans were initially required by the 1972 CWA Amendments. During the earlier years, WQM plans resulted from the development of two separate but interrelated plans, namely, a basin plan and an areawide waste treatment management plan.

The basin plan, developed by the State, classified all stream segments in the State as effluent limited or water quality limited. A stream segment was classified as effluent limited if it was projected to meet its water quality standards when all point sources of pollutants were given secondary treatment. This designation meant that construction grant applicants needed only to provide for secondary treatment to qualify for grant assistance. On the other hand, a stream segment was classified as water quality limited if it was not projected to meet its water quality standards when all point sources were given secondary treatment. Classification of a stream segment as water quality limited generally indicated severe water quality problems and most often was found in industrialized or urban areas. To solve the water quality problems, mathematical models were developed and used to predict changes in water quality resulting from various combinations of advanced treatment for point sources, as well as control techniques for non-point sources.

For each area of a State with substantial water quality problems, the Governor designated a responsible agency to prepare an areawide waste treatment management plan (frequently called a 208 plan). In areas with less severe problems, States conducted limited areawide planning to identify the problems and to propose implementation measures necessary for achieving water quality standards. Among the many outputs of these plans was the identification of local agencies or municipalities which would implement construction of publicly owned treatment works (POTWs).

Since 1972, the distinction between basin planning and areawide planning gradually became less clear, and the two planning functions were eventually combined into one consolidated planning activity, namely, WQM planning. Most WQM plans were completed during the late 1970's or early 1980's. However, to insure that WQM plans continue to provide effective frameworks for management, WQM plans must be updated from time to time, to reflect changing water quality conditions, the results of implementation activities, and new regulatory requirements.

Ideally, WQM plans should address the following water quality elements:

- total maximum daily loads;
- effluent limitations for water quality based stream segments;
- anticipated municipal and industrial waste treatment works, including treatment facilities for combined sewer overflows (CSO's);
- nonpoint source management and control, including identification of best management practices to control nonpoint source pollution;
- programs for the control of dredge or fill material;
- programs for control of groundwater pollution;

- implementation measures necessary to carry out the plan, including financing and scheduling;

- the economic, social, and environmental impacts of implementing the plan;

- identification of relationship to earlier basin plans; and

- identification of the agencies which will carry out the plan.

In reality, however, some WQM plans do not include all of the above elements.

Several elements in WQM plans are of particular significance to construction grants program personnel, namely:

- The identity of the specific agency or municipality which will construct each needed wastewater treatment works. Where a proposed project is located in a WQM planning area, grant assistance may be awarded only to the agency or municipality identified in the WQM plan.

- The wasteload allocation assigned to a specific point source. This will dictate the level of treatment required by that discharge, and will be reflected in the NPDES permit and the alternatives evaluated during facilities planning.

- The description of the severity of the pollution problems caused by a specific point source. This will influence the project's ranking in the State's project priority list (see Section E.3 below).

- Information which can be used by grant applicants in preparing facilities plan. This will reduce costs and shorten the time necessary for project completion.

Several recent changes in terminology or approaches to WQM planning must be understood. For municipal point sources, the term "technology-based effluent limitations" means secondary treatment or its equivalent, as defined in 40 CFR Part 133. "Water-quality-based effluent limitations" means treatment to a level, more stringent than secondary treatment, necessary to achieve water quality standards. With regard to allowable waste loadings for stream segments, the following definitions are applicable:

- load or loading - an amount of matter or energy that is introduced or transported into a receiving stream from human activities (pollutant loading) or natural sources (natural background);

- assimilative capacity - the greatest amount of loading that a water body can receive without violating its water quality standards;

- load allocation - the portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources;

- wasteload allocation - the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution; and

- total maximum daily load - the sum of wasteload allocations for point sources and load allocations for nonpoint sources and natural background.

The receiving water's loadings are included in the WQM plan. The wasteload allocation is of particular importance to construction grants personnel, since it will determine the water quality based effluent limitations and consequently the level of treatment required for a specific project.

Re: 40 CFR 35.2023, 35.2102, 130.2, 130.6, 130.7, 130.12(b)

4. Water Quality Management Funding and Annual Work Program

EPA provides grant assistance to States to carry out the WQM activities described in Sections B.1 through B.3 and C.1 through C.3 above. As with all grants, States are required to provide a work program (i.e., an annual program management document) as part of the grant application package.

The work program reflects the problems described in the water quality report and the WQM plans. The work program specifies the planning activities to be carried out during the period of the grant, the cost of the specified activities, the outputs to be produced by each activity, and where applicable, schedules for the completion of each activity. Activities to be supported by grant funds include major functions such as permitting, enforcement, monitoring, planning and standards, nonpoint source implementation, management of construction grants, overseeing operation and maintenance (O&M) of treatment works, emergency response, and program management. The portion of the work program addressing compliance with water quality standards by POTWs must be consistent with the implementation of EPA's National Municipal Policy (see Section D.1 below).

Payment procedures for WQM planning grants are discussed in Section IX.B.8.d.

Re: 40 CFR 130.8, 130.11

D. IMPLEMENTING THE WATER QUALITY MANAGEMENT PLAN

1. National Municipal Policy

The CWA requires all POTWs to meet statutory compliance deadlines necessary to achieve the water quality objectives of the CWA, whether or not grant assistance is awarded. EPA's goal is to obtain compliance by POTWs as soon as possible, but no later than July 1, 1988.

To implement this goal, EPA has focused on: (1) POTWs that previously received grant assistance and are not currently in compliance with their effluent limitations, (2) all other major POTWs that are not in compliance, and (3) minor POTWs that are contributing significantly to the impairment of water quality. Affected municipalities are required to prepare either a composite correction plan (when its existing treatment facility is not in compliance), or a municipal compliance plan (when a treatment facility needs to be constructed). In either case, the plan must be completed by September 30, 1985, and must contain an enforceable compliance schedule developed jointly by the affected municipality and the enforcing agency (either EPA or the delegated State).

The compliance schedules and strategies resulting from implementation of the National Municipal Policy are to be integrated into each State's overall WQM work program for the coming year (see Section C.4 above).

Re: EPA notice of "National Municipal Policy," 49 FR 3832 and 3833 (January 30, 1984)

2. Municipal Permits

The CWA established the NPDES permit program as the enforcement mechanism for achieving water quality standards. A discharge permit is issued under this system to all municipal and industrial discharges. Where a WQM plan has been prepared and approved, permits will require compliance with the approved plan. For existing treatment facilities which, because of present or anticipated future inadequate treatment, will prevent achievement of water quality standards, the NPDES permit may contain limitations, conditions, or schedules which will prompt the municipality to apply for a construction grant.

An applicant for a construction grant must comply with its existing permit or obtain a new permit. In accordance with the National Municipal Policy (see Item 1 above), reviewing agencies must insure coordination between the construction grant and NPDES permit programs.

Re: 40 CFR 35.2000(a), 35.2005(b)(15); 40 CFR Part 125

3. Facilities Plans

WQM planning develops recommended control measures which, when implemented, are expected to result in the attainment of water quality standards. A WQM plan generally addresses problems for a large area, and may recommend the construction of one or more POTWs. Where the construction of a POTW is recommended in a WQM plan, the plan will also designate the implementing agency or municipality. Only this municipality may apply for grant assistance to build the recommended POTW. The first major step in the grant application process is the preparation, by the municipality, of a facilities plan.

Facilities planning may be considered as the final implementing phase in water quality planning for POTWs. Within the framework of the WQM plan, facilities planning considers specific wastewater treatment processes, evaluates various alternatives, and selects a cost-effective, environmentally sound project (see Chapter IV). Subsequently, the selected project is designed, grant assistance is awarded (assuming that all requirements for grant assistance are met and sufficient funds are available), and the project is constructed.

Re: 40 CFR 35.2030, 130.12(b)

E. FUNDING THE CONSTRUCTION GRANTS PROGRAM

1. General

In the case of POTWs, water quality planning is implemented, in part, through the construction grants program. WQM plans identify priority water quality areas and recommend actions necessary to achieve water quality standards. NPDES permits may also require actions necessary to maintain and enhance water quality. Where such actions include the upgrading or expansion of existing municipal treatment facilities or the construction of new facilities, the municipalities may be considered potential grant applicants and may qualify for grant assistance.

2. Allotment of Funds

The CWA authorizes funding of the construction grants program, usually for a period of several years. However, funds only become available for each fiscal year when Congress appropriates them.

The CWA specifies the formula to be used in computing each State's annual allotment of the appropriated grant funds. (For the purposes of the CWA, the term "State" includes the fifty States, as well as the District of Columbia; the Commonwealths of the Northern Marianas and Puerto Rico; the Territories of American Samoa, Guam, and the Virgin Islands; and the Trust Territory of the Pacific Islands.) Generally, the allotment formula is based on each State's population and the need for wastewater treatment works in each State, as identified in the Needs Survey discussed below. After the allotment formula has been used by EPA to compute each State's annual allotment, the allotments are published in the Federal Register (FR).

Every two years EPA, in cooperation with the States, prepares the "Needs Survey - Cost Estimates for Construction of Publicly-Owned Wastewater Treatment Facilities." The needs survey identifies, by category, treatment works needed as of the date of the survey, projected through the year 2000. The categories of need correspond with the categories of projects used in the State's priority system and project priority list (see Item 3 below). In addition to cost estimates, the needs survey provides an inventory of municipal facilities which may be eligible for grant assistance.

Re: 40 CFR 35.910-1 through 35.910-11, 35.2010; EPA "Notice of Allotment," 47 FR 42024-42025 (September 23, 1982); EPA "Notice of Allotment," 47 FR 56177 (December 15, 1982); EPA "Notice of Allotment," 48 FR 51174 (November 7, 1983)

3. State Priority System and Project Priority List

Purpose:

Establish a priority system and project priority list for awarding grant assistance for specific projects.

Discussion:

The 1981 CWA amendments stress the importance of achieving optimal water quality and protecting public health through the construction grants program. The implementing regulations emphasize that high priority should be given to projects in priority water quality areas (i.e., specific stream segments or bodies of water where municipal discharges have resulted in the impairment of a designated use or significant public health risks, and where the reduction of pollution from municipal discharges will substantially restore surface or ground water uses). The concept of priority water quality areas is also used by the States for scheduling revisions to water quality standards; computing total daily maximum wasteloads; issuing major permits; and focusing monitoring, enforcement, and reporting efforts on critical water quality problems.

The methodology used to rate and rank proposed individual municipal wastewater projects for grant assistance is the State priority system. Using the State priority system and the criteria contained therein, each State develops a list of projects, ranked in the order of their importance, which are expected to qualify for grant assistance. The priority system also includes administrative, management, and public participation procedures required to develop and revise the project priority list.

The concept of priority water quality areas is also embodied in the development of the State priority system, and is reflected in the criteria to be used in ranking individual proposed projects. Some criteria are mandated by legislation or regulation, while other criteria may be used at the discretion of the State. The specific criteria mandated by regulation in the development of the State's priority system are:

- the impairment of classified water uses resulting from existing municipal pollutant discharges, and

- the extent of surface or ground water use restoration or public health improvement which would result from the reduction in pollution.

Optional criteria include:

- higher priority for projects employing innovative or alternative (I/A) technology;
- need to complete a waste treatment system for which a grant for an earlier phase or segment was previously awarded;
- category of need (e.g., treatment plant, interceptor, sewer rehabilitation, etc.); and
- existing population affected.

If the State includes new phased or segmented projects in the priority list, the projects must meet certain conditions (see Section VI.D.10).

All projects listed in the State's project priority list must fit into at least one of the categories of need described below. Note that the categories changed after September 30, 1984.

Categories of need before October 1, 1984:

- secondary treatment,
- treatment more stringent than secondary,
- correction of excessive infiltration/inflow (I/I),
- major sewer system rehabilitation,
- new collector sewers and appurtenances,
- new interceptors and appurtenances, and
- correction of CSOs.

Categories of need after September 30, 1984:

- secondary treatment or any cost effective alternative,

- treatment more stringent than secondary or any cost effective alternative,

- new interceptors and appurtenances, and

- correction of excessive I/I.

The effect of the change in categories of need is to eliminate three categories of projects (new collection sewers, major sewer rehabilitation, and correction of CSOs) as eligible for grant assistance with two exceptions. After September 30, 1984, the Governor of a State may elect to use up to 20 percent of the State's annual allotment for any of the earlier (before October 1, 1984) project categories. Also after September 30, 1984, the Governor may elect to include a category of need for CSOs (i.e., to use more than 20 percent of the allotment), but only if those projects result in the correction of impaired uses in priority water quality areas. The State must demonstrate that the water goals of the CWA will not be achieved without correcting these CSOs (see Section VI.G).

The project priority list contains two portions:

- the fundable portion, consisting of those projects anticipated to be funded from the current allotment, and

- the planning portion, consisting of projects anticipated to be funded from future allotments.

Development of the State's priority system and project priority list is subject to EPA's public participation requirements, and must be be approved by the EPA Regional Office.

Review Procedures:

Each State must submit its priority system, as well as all subsequent revisions, to the EPA Regional Office for review. The Regional Office will review each document to insure that it:

- is consistent with the criteria and the categories of need discussed above, and

- reflects adequate public participation in the development of both the priority system and the project priority list.

The Regional Office will complete its review, and will notify the State in writing of its approval or disapproval, within 30 days of its receipt of each document.

By August 31 of each year, each State must submit a project priority list for use in the following fiscal year. The Regional Office will review each State's list, as well as any subsequent revisions, to insure that each document:

- is consistent with the State's approved priority system;
- is properly divided into a fundable portion, which is consistent with the amount of funds expected to be available for grant awards in the following fiscal year, and a planning portion;
- includes an estimate of the eligible cost of each project;
- reflects adequate public participation in the development of the priority list; and
- contains only projects which will contribute to compliance with the enforceable requirements of the CWA, except for projects which are exempt from this requirement as described below.

The Regional Office will complete its review, and will notify the State in writing of its acceptance or rejection, within 30 days of its receipt of each document. If the project priority list is rejected because it contains projects which will not contribute to compliance with the enforceable requirements of the CWA, the Regional Office must hold a public hearing before requiring the State to remove these projects from the priority list. Furthermore, the Regional Office may not require the removal of any project if:

- it is in one of the following categories: major sewer rehabilitation, new collector sewers and appurtenances, new interceptors and appurtenances, and correction of CSOs; and
- the Federal share of the cost of projects in the above categories does not exceed 25 percent of the State's annual allotment.

Re: 40 CFR Part 25; 40 CFR 35.2015, 35.2024(a)

4. Reserves

Portions of each State's annual allotment of construction grant funds are reserved for certain specific uses in accordance with EPA's regulations. There are five reserves specified in the regulations:

a. Reserve for State Management Assistance

Section 205(g) of the CWA allows each delegated State to reserve up to 4 percent of the State's allotment based on the amount authorized to be appropriated, or $400,000, whichever is greater, to pay for the State's administration of the construction grants program. These funds are used by EPA to award a grant to the State for the administration of the program (see Section I.F). Once these funds are obligated (as a grant to the State), they remain available to the State until expended. However, if the entire reserve is not obligated during the allotment period, the unobligated funds are transferred by EPA, at the beginning of the next fiscal year, to the State's regular allotment for construction grants.

Re: 40 CFR 35.2020(a)

b. Reserve for Alternative Systems for Small Communities

Each State with a rural population of 25 percent or more must reserve 4 percent of its annual allotment for alternatives to conventional treatment works for small communities. All other States, at the option of the Governor, may also reserve 4 percent for the same purpose. A small community, for the purpose of this reserve, is any municipality with a population of 3,500 or less, or a highly dispersed section of a large municipality.

These funds are used to fund the base grant (normally 55 percent, unless a different rate is applicable, as described in Section VI.L.2) for I/A projects which serve small communities. Funds for the increased grant for the use of an I/A technology (normally 20 percent, except that the total Federal share may not exceed 85 percent) must be taken from the reserve for I/A technologies (see Item c below).

Re: 40 CFR 35.2005(b)(40), 35.2020(b)

c. Reserve for Innovative or Alternative Technologies

Each State must reserve at least 4 percent, but not more than 7.5 percent of the State's annual allotment, to increase the Federal grant share by an additional 20 percent for projects which use I/A wastewater treatment processes and techniques (see Sections IV.C.6.9 through IV.C.6.13, V.C.2.y, VI.E.3, VI.I, VI.J, VI.L.2.d, VI.L.2.e, and VI.M.5.h).

Not less than 0.5 percent of this amount must be set aside for projects using innovative processes or techniques. Note that the reserve funds are used to increase the Federal share (e.g., where a 55 percent grant is awarded from the general allotment, a 20 percent increase is added from the I/A reserve, bringing the total Federal share, in this instance, to 75 percent).

Re: 40 CFR 35.2020(c)

d. Reserve for Water Quality Management Planning

Section 205(j) of the CWA requires each State to reserve at least $100,000, but not more than 1 percent of the State's annual allotment, to carry out WQM planning, (see Section C above), except that the Commonwealth of the Northern Marianas, the Territories of American Samoa, Guam, and the Virgin Islands, and the Trust Territory of the Pacific Islands must reserve a reasonable amount.

Re: 40 CFR 35.2020(d)

e. Reserve for Advances of Allowance

Each State must reserve a reasonable portion of its annual allotment, not to exceed 10 percent, for advances of allowance (see Sections III.E, VI.K, and IX.B.8.c). This requirement may be waived by EPA where a State can demonstrate that such a reserve is not necessary, either because:

i. no small communities in the State will need financial assistance to complete facilities planning or preparation of plans and specifications; or

ii. reserve funds from prior allotments remain available and are sufficient to provide the necessary advances of allowance.

Re: 40 CFR 35.2020(e)

States may also establish other reserves (e.g., for grant increases) which the State feels are appropriate. Unobligated portions of all reserves, except the reserve for state management assistance grants (see Item a above), are reallotted to other

States if not obligated during the allotment period. However, nonmandatory reserves and nonmandatory portions of mandatory reserves (see Items b through e above) can be released from the reserve and obligated for other purposes before the end of the allotment period.

Re: 40 CFR 35.2010, 35.2020, 35.2021

F. SUMMARY OF THE PLANNING PROCESS

Water quality planning and management is a dynamic activity, and is based on initial and continuing planning efforts directed toward achieving the water quality goals of the CWA. The activities involved in water quality planning may, at times, be conducted separately, but eventually must be integrated into a unified and goal-directed management program. A simplified schematic flow diagram for water quality planning and management is shown in Figure 1, and may be summarized by the following steps:

a. water quality goals are established by the CWA;

b. uses and water quality standards are established by the State to fulfill these goals;

c. water quality monitoring is conducted to measure progress toward meeting the standards;

d. WQM plans are developed to identify control and implementation measures needed to achieve the standards;

e. annual water quality report is prepared to assess problems and progress and, when necessary, to redirect planning efforts;

f. annual work program is prepared to define planning activities during the year, based on the assessment of the problems and progress;

g. grant assistance is provided to States to carry out planning activities;

h. permits are issued and enforcement actions are undertaken to insure compliance with water quality standards;

i. grant assistance is provided to municipalities to construct POTWs; and

j. CPP is utilized to integrate all planning activities described above.

Re: 40 CFR Part 130

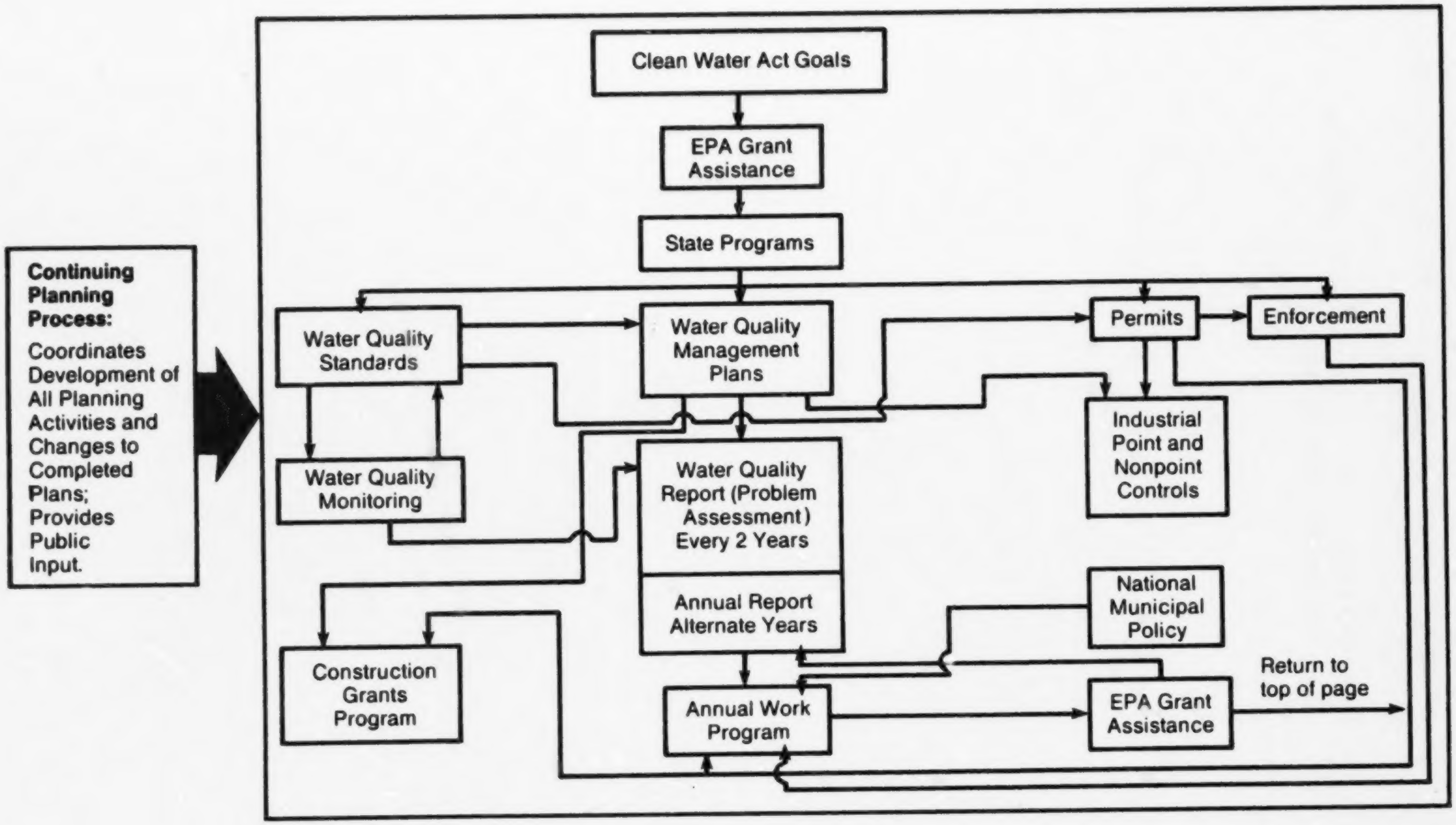
Continuing Planning Process:
Coordinates Development of All Planning Activities and Changes to Completed Plans; Provides Public Input.
Clean Water Act Goals
EPA Grant Assistance
State Programs
Water Quality Standards
Water Quality Management Plans
Permits
Enforcement
Water Quality Monitoring
Water Quality Report (Problem Assessment) Every 2 Years
Annual Report Alternate Years
Industrial Point and Nonpoint Controls
National Municipal Policy
Construction Grants Program
Annual Work Program
EPA Grant Assistance
Return to top of page

Figure -1. Water Quality Planning and Management

CHAPTER III

PREAPPLICATION MANAGEMENT

A. INTRODUCTION

B. QUALIFICATIONS

C. PREAPPLICATION PROJECT MANAGEMENT

D. PREPLANNING CONFERENCE

E. ADVANCES OF ALLOWANCE

A. INTRODUCTION

This chapter discusses preapplication project management activities which should be undertaken by reviewing agencies. With the elimination of Step 1 and Step 2 grants, it is incumbent upon reviewing agencies to work with, and track the development of projects by, potential grant applicants. Although in theory, a potential grant applicant need not submit documentation to the reviewing agency prior to formally submitting a Step 2+3 or a Step 3 grant application, this course of action would not be advisable, since it is possible that a project could be planned, designed, and submitted to the reviewing agency, but because of its failure to satisfy State and Federal regulatory requirements, be denied grant assistance, or have its grant assisistance delayed until all requirements were satisfied. To preclude this possibility, and in order to manage the construction grants program effectively, most reviewing agencies have developed systems to identify potential grant applicants, provide them with printed informational materials, and conduct preapplication conferences.

This chapter begins by defining applicant and project qualifications for grant assistance, followed by recommendations for preapplication project management. The next section recommends procedures for conducting preplanning conferences, including a summary of the important topics which should be covered. The chapter concludes with a discussion of advances of allowance for small communities.

Section B, Qualifications, describes the conditions which must be met, by a grant applicant and by its proposed projects, in order to be eligible to receive a Step 2+3 or a Step 3 grant.

Section C, Preapplication Project Management, contains recommendations for reviewing agency management of facilities planning and design work by potential grant applicants, in order to insure a high quality of planning and design outputs, and to preclude delays in the grant award process due to an applicant's failure to satisfy State and Federal regulatory requirements. It also discusses the use of the Grants Information and Control System (GICS), and highlights the effectiveness of this system as a management tool.

Section D, Preplanning Conference, recommends procedures for conducting preplanning conferences with potential grant applicants, and includes a brief discussion of the important topics which should be covered in these conferences. In most cases, this section includes cross references to other chapters, where these topics are discussed in more detail.

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Section E, Advances of Allowance, describes the circumstances under which a potential grant applicant may qualify for an advance of the allowance for facilities planning and/or design, and the procedures to be followed by the States in making these advances to potential grant applicants.

B. QUALIFICATIONS

The term "qualifications" is used in this section to describe the conditions which must be satisfied by a grant applicant and its proposed projects in order to be eligible to receive grant assistance. Additional information on project qualifications is contained in Section IX.F.1.

1. Applicant Qualifications

The primary purpose of the EPA construction grants program is to assist municipalities in meeting the enforceable requirements of the Clean Water Act (CWA). The term "municipalities" is broadly defined in the regulations as "a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created under State law, or an Indian tribe or an authorized Indian tribal organization, having jurisdiction over disposal of sewage, industrial wastes, or other waste, or a designated and approved management agency under Section 208 of the Act."

This definition includes State agencies and special districts which have as one of their principal responsibilities the treatment, transportation, or disposal of domestic wastewater in a particular geographic area. Airports, turnpikes, port facilities, municipal utilities (e.g., electrical or water utilities), or other revenue producing entities do not qualify for grant assistance except in unusual circumstances. Similarly, prisons, school districts, park districts, and other special purpose units of government, which do not have responsibility for the treatment, transportation, or disposal of an entire community's wastewater, do not qualify for grant assistance. Refer to the definition of "municipality" in the regulations for a more complete definition and for additional limitations.

Re: 40 CFR 35.2000(a), 35.2005(b)(27) and (41)

2. Project Qualifications

After September 30, 1984, all projects must fit into one of the following categories of need in order to qualify for grant assistance:

a. secondary treatment, or any cost effective alternative;

b. treatment more stringent than secondary, or any cost effective alternative;

c. new interceptors and appurtenances; and

d. infiltration and inflow (I/I) correction.

An exception to the above project qualifications may be made for a limited number of projects if the Governor of a State elects to include other categories of need which previously (i.e., before October 1, 1984) qualified for grant assistance (i.e., major sewer system rehabilitation, new collection sewers and appurtenances (see Section VI.D.14) and correction of combined sewer overflows (CSOs). The extent to which projects in these previously qualified categories of need can be included in a State's project priority list is discussed in Section II.E.3. A complete discussion of funding sources for marine and nonmarine CSO projects is included in Section VI.G.

Alternative technology collection systems serving small communities with populations of 3,500 or less, or serving highly dispersed sections of larger municipalities, also qualify for grant assistance (as "any cost effective alternative" shown in the first two categories above) after September 30, 1984 (see Section VI.E.1).

Questions will arise concerning whether a sewer is an interceptor, trunk, or lateral sewer, since after September 30, 1984, with the exception noted above, only interceptor sewers qualify for grant assistance. The definition of an interceptor in 40 CFR 35.2005(b)(24) is very specific, and provides an answer to this question. In essence, an interceptor may be defined as a sewer whose primary purpose is to transport rather than collect wastes.

Re: 40 CFR 35.2005(b)(4), (b)(10)(iii), (b)(24), and (b)(40), 35.2015(b)

C. PREAPPLICATION PROJECT MANAGEMENT

Effective project management requires that reviewing agencies make every effort to identify and work with potential grant applicants throughout the planning, design, and construction phases of a project. Because of the high construction and operating cost of wastewater treatment projects and their environmental impacts, it is essential that they be carefully planned and designed. Also, because wastewater treatment projects may be subject to more than fifty Federal statutes and executive orders, as well as numerous State laws and regulations, most grant applicants need considerable advice and guidance from the reviewing agency as they develop and implement their construction projects.

1. Project Identification

Because of the requirement for a biennial needs survey (see Section II.E.2), most potential grant applicants have already been identified, and where appropriate, are included in the State's project priority list. However, since 1981 some States have chosen to limit their priority lists to include only those projects which are ready or soon to be ready for construction.

Potential grant applicants may also be identified in completed water quality management (WQM) plans, in a State's inventory of municipal dischargers, or in a list generated by those responsible for the issuance of National Pollutant Discharge Elimination System (NPDES) permits or enforcement orders. Once potential grant applicants are identified, they should be entered into the reviewing agency's management and tracking system (see Items 2 and 3 below).

2. Project Tracking

Once a potential grant applicant has been identified, the reviewing agency should:

a. estimate the time of Step 2+3 or Step 3 grant award, based on the community's actual or expected relative position on the State's project priority list;

b. estimate the amount of time necessary for the community to complete the planning, design, and related activities which are prerequisites to Step 2+3 or Step 3 grant award;

c. use the above information to set a time for conducting a preplanning meeting with the potential grant applicant (see Section D below);

d. enter the potential project into its management and tracking system (see Item 3 below, along with a timetable of important milestones in the project's development, as agreed to by both the reviewing agency and the grantee;

e. periodically contact the potential applicant to review its progress in relation to the project timetable, to review outputs for conformance with State and EPA requirements, and to assist the potential applicant with advice on technical, regulatory, and administrative problems; and

f. use all of the above information to generate and revise forecasts of the reviewing agency's future workload and resource requirements.

3. Grants Information and Control System

GICS is a computerized system which is used to collect, edit, and summarize essential information concerning EPA's construction grants program. As such, it represents a significant administrative tool which enables EPA and the delegated States to efficiently manage the program. The system also provides for the retrieval of information for use by program personnel at all levels, as well as members of Congress and the public. The core of the system is the computerized data bank which stores the following concerning a project:

a. preapplication status,

b. stage of application review,

c. milestone during building, and

d. administrative progress through audit to closeout.

Once data is entered into the system, existing computer programs are capable of producing reports ranging from the status of a single project to statewide and nationwide trends. Typical reports include the priority rating and ranking of all projects within a State, grant application and milestone tracking, audit and closeout tracking, payment tracking, etc.

The uses and limitations of GICS are described in the "Users Manual," "Reports Library," and "Data Element Dictionary," which are maintained by a GICS coordinator in each State, EPA Regional Office, and EPA Headquarters. These documents provide a detailed description of the system, a listing of available reports, a definition of data elements, and coding instructions for data entry.

From the perspective of a project reviewer, GICS output can be an effective tool in terms of tracking progress during construction, thereby insuring timely inspections. Also, the project's progress may be compared with the approved project schedule by mathematically converting the sum of all grant payments to a percentage of the grant award amount, which should be approximately equal to the project's percentage of completion. Program managers may also use GICS reports to forecast workloads for use in budget preparation and resource allocation.

As with any computerized system, GICS is only as good as the information contained therein, and the need to have construction grants program personnel enter accurate and timely information into the system cannot be overemphasized. In most States and Regions, one person has been assigned the responsibility for maintaining GICS, including the training of both project officers and clerical support staff in its use.

Whenever the reviewing agency corresponds with a grant applicant or a grantee regarding the submission or approval of project documents or regarding other project milestones, an appropriate entry should be made in GICS. In at least one State, GICS coding sheets are printed on the reverse side of standard form letters, and typists have been instructed not to address and mail the letters unless the coding sheet has been completed.

GICS has been designed to help manage the construction grants program effectively. Its usefulness depends largely on the construction grants program staff providing timely input of accurate information.

D. PREPLANNING CONFERENCE

Purpose:

Meet with potential grant applicants and review major activities which must be completed prior to applying for a Step 2+3 or Step 3 grant.

Discussion:

While a preplanning conference is not required by the construction grants regulations, many State/EPA delegation agreements require that the States conduct such conferences. The importance of a preplanning conference cannot be overemphasized. It provides an opportunity for the reviewing agency to meet face-to-face with the grant applicant and its staff and review the work to be accomplished during facilities planning and design.

After determining that a project is likely to be ranked high enough on the priority list to obtain a grant in the near future, a potential grant applicant should be encouraged to prepare a plan of study prior to the preplanning conference. A plan of study, while not required by the EPA regulations, would serve as a useful basis for discussion during the conference. A typical plan of study includes: a description of the work tasks to be performed during facilities planning, a schedule for completing each major work task and output, and an estimate of the work hours and costs necessary to complete each task.

Procedures:

After a potential grant applicant has been identified, the reviewing agency should contact the applicant and schedule a preplanning conference. At the same time, the reviewing agency should encourage the grant applicant to prepare and submit a plan of study which will serve as the basis for discussion during the conference. The following major topics are typically discussed during the preplanning conference:

1. Permits and Compliance Schedules

Potential grant applicants are to be made aware that existing projects must be in compliance with schedules resulting from the implementation of EPA's National Municipal Policy (see Section II.D.1), the NPDES permit program, court orders, or State enforcement orders (see Section VI.C.6).

2. Procurement of Engineering Services

a. Procedures

The procurement of engineering or other professional services for facilities planning and/or design is not subject to the EPA procurement regulations or to an EPA audit. However, if the grant applicant anticipates using the same engineer for Step 3 construction activities, and wishes to avoid advertising and evaluating proposals for engineering services during construction, it must have procured the engineer for facilities planning and/or design in accordance with EPA procurement requirements (see Section VII.C.3).

Re: 40 CFR 33.715

b. Use of Small, Minority, Women's, and Labor Surplus Area Businesses

Grant applicants are encouraged to utilize the services of small, minority, women's, and labor surplus area businesses (see Section V.C.1.w) during facilities planning and design. At the time of grant application, they will be required to report the level of minority business enterprises and women's business enterprises (MBE/WBE) participation in facilities planning and design. Some States and municipalities may have established goals for this purpose (see Section VI.D.5).

Re: 40 CFR 33.240; 35.2104(d)

c. Use of Debarred or Suspended Firms

Grant applicants should be advised not to use individuals or firms included on EPA's list of debarments and suspensions for facilities planning or design work (see Section VI.D.7). Grant applicants should also be advised to report any instances of misconduct by their contractors (e.g., engineers, construction firms, equipment suppliers, etc.) to EPA's Office of the Inspector General (OIG), using the hotline (800-424-4000 or 202-382-4977) established for that purpose.

Re: 40 CFR 35.2105

3. Financial Considerations

a. State Priority System and Project Priority List

Grant applicants should have a clear understanding of the State priority system and project priority list. Proposed projects should be evaluated and an assessment made as to the likelihood of receiving a future grant (see Sections II.E.3 and VI.D.3).

Re: 40 CFR 35.2015, 35.2103

b. Federal Grant Share

Grant assistance is limited to 55 percent for most projects, except for grants at 75 percent for projects or portions of projects which use an innovative or alternative (I/A) technology (see Sections VI.L.2.d and VI.L.2.e) or which have received a 75 percent grant for a previously funded phase or segment (see Section VI.L.2.c). A lower Federal share may be set by the Governor (see Section VI.L.2.b).

Re: 40 CFR 35.2152

c. Financial Assistance for Facilities Planning and Design Work

Due to the elimination of Step 1 and Step 2 grants by the 1981 CWA amendments, no grants for facilities planning or design can be awarded after December 29, 1981. Instead, an allowance is provided to help offset planning and/or design costs (see Section E below, and Section VI.K.1). In some cases, a portion of the estimated allowance may be advanced to potential grant applicants (see Section E below). The allowance and advance of allowance should be explained and the grant applicant, if qualified, should be instructed on how to apply for an advance of allowance (see Section E below).

Re: 40 CFR 35.2025

d. Step 2+3 Grants

Qualifying municipalities should be advised to apply for Step 2+3 grants (see Section VI.F.1).

Re: 40 CFR 35.2109

e. Preaward Costs

In certain cases, it may be cost effective (or may be required by an emergency situation) for a grant applicant to perform some preaward work which is normally accomplished after grant award. To be allowable for grant participation, such preaward costs must be approved by the reviewing agency prior to being incurred. The reviewing agency should explain to the grant applicant the limitations which apply to preaward costs (see Section VI.D.15), and should remind the applicant that preaward costs are subject to audit (see Section VIII.E).

Re: 40 CFR 35.2118

f. Phased or Segmented Projects

Projects whose cost is large in relation to the State's annual allotment, and projects with expected construction schedules of three years or more, may require phasing or segmenting. If the reviewing agency anticipates such a situation, the consequences of phasing or segmenting should be explained to the grant applicant (see Section VI.D.10).

Re: 40 CFR 35.2108, 35.2123, 35.2152(a) and (c)

4. Limitations on Eligibility

a. Collection Systems

No grant award may be made for a new sewage collection system in a community unless the bulk of the design flow (generally two thirds) is attributable to the residential population which existed on October 18, 1972. Unless elected by the Governor, no grants may be awarded for new sewage collection systems after September 30, 1984 (see Sections II.E.3 and VI.D.14).

Re: 40 CFR 35.2015(b)(2)(ii), 35.2116

b. Individual Systems

Costs for privately owned individual treatment systems serving one or more principal residences or small commercial establishments inhabited or in use prior to December 27, 1977, qualify for grant assistance (see Section VI.E.1).

Re: 40 CFR 35.2034

c. Reserve Capacity

Most reserve capacity is no longer eligible for grant assistance (see Sections VI.D.18, and VI.L.1).

5. Intergovernmental Review

Grant applicants should comply with the State intergovernmental review process as early as possible, but no later than completion of facilities planning (see Sections VI.B.8 and VI.E.6).

Re: 40 CFR Part 29; 40 CFR 35.2040(b)(2)

6. Technical Review

a. Water Quality Management Plan

Projects must comply with the approved WQM plan. These plans may also contain information which can be used by the grant applicant, thereby reducing costs (see Sections II.C.1 and II.C.3).

Re: 40 CFR 35.2023, 35.2102

b. Facilities Plan

The required contents of a facilities plan should be reviewed (see Section IV.C). The reviewing agency should discuss the level of detail required in the facilities plan for the particular size and complexity of the project. Clear and concise instructions should be provided to the grant applicant concerning:

i. documentation necessary to justify the need for the project (see Section IV.C.2.2);

ii. public participation requirements which will allow the State to certify that there has been adequate public participation based on State and local statutes (see Sections IV.C.7.4 and VI.C.3);

iii. population and waste loading projection techniques (see Section IV.C.5);

iv. effluent limitations (see Section IV.C.3);

v. advanced treatment (AT) review policy (see Section IV.E.1);

vi. policy on elimination of excessive I/I (see Sections IV.C.4.3, VI.D.16, and IX.F.4, Paragraph G);

vii. environmental review, including the scope of the environmental information document (EID) or issuance of a categorical exclusion (see Section IV.D, and Item 7 below);

viii. demonstration of financial and managerial capability (see Section VI.D.4);

ix. requirements for alternative wastewater systems (see VI.E.1);

x. limitations on eligibility of reserve capacity (see Section VI.D.18); and

xi. cost-effectiveness analysis, including evaluation of I/A technologies (see Section IV.7.1).

Re: 40 CFR Part 6, Subpart E; 40 CFR 35.2030

c. Value Engineering

Where applicable, the grant applicant should be advised of the need for a value engineering (VE) study (see Section V.D).

Re: 40 CFR 35.2114

d. Intermunicipal Service Agreements

Where applicable, grant applicants should be made aware of the need for executed intermunicipal service agreements and the long lead times generally necessary to negotiate such agreements (see Section V.H).

Re: 40 CFR 35.2107

e. User Charge System

The requirements for a user charge (UC) system should be explained, particularly for multimunicipal projects or those municipalities with an ad valorem tax based system (see Section V.E).

Re: 40 CFR 35.2122, 35.2140, 35.2208

f. Sewer Use Ordinance

The requirements for a sewer use ordinance (SUO) should be explained, especially if the municipality will receive industrial wastes and possibly be subject to the pretreatment requirements (see Section V.F).

Re: 40 CFR 35.2122, 35.2130, 35.2208; 40 CFR Part 403

g. Plan of Operation

The requirements for a draft and a final plan of operation, including an operation and maintenance (O&M) manual, should be discussed (see Section V.G).

Re: 40 CFR 35.2106

h. Project Performance Standards

While project performance certification and continuing engineering services are not required until well after the project has been awarded a grant, the grant applicant should be made aware of these relatively new requirements (see Sections V.C.2.a, VI.M.5.g, and VII.I.2.a).

7. Categorical Exclusion

An environmental review must be conducted by the reviewing agency, in accordance with 40 CFR Part 6, for each project requesting grant assistance. The environmental review may result in the issuance of a categorical exclusion, a finding of no significant impact (FONSI), or the need to prepare an environmental impact statement (EIS). At the preplanning stage, it may be possible to conclude that a categorical exclusion is warranted, or alternatively that, because of the significant environmental impacts resulting from the proposed project, an EIS should be prepared simultaneously with the preparation of the facilities plan (frequently called piggybacking).

The conditions under which a categorical exclusion may be issued should be given consideration at the preplanning stage of a project's development. If issued, a categorical exclusion will reduce the work required on the part of the grant applicant in preparing a facilities plan, thereby saving time and money. A categorical exclusion from a substantitive environmental review is intended to apply to projects which are small scale, minor, and routine. Such projects may include replacement, minor rehabilitation, minor expansion, or minor upgrading of facilities, which should not result in increasing the overall design capacity of the treatment works, nor the pipe size of interceptors or collection sewers. Where a categorical exclusion is granted by EPA, an EID need not be prepared by the grant applicant. However, if it is later found that conditions exist which require the preparation of an EIS, the categorical exclusion will be revoked by EPA, and the grantee will be required to furnish an EID (see Section IV.D).

Re: 40 CFR 6.400(f), 6.506(c), 6.507(a), 35.2030(c)

8. Project Management

Special emphasis should be placed on organizing the grant applicant's project team, particularly the selection of the engineering consultant, and on the demonstration, by the grant applicant, of its financial and managerial capability (see Section VI.D.4). The grant applicant should also be advised of the importance of developing a good record keeping system, and of keeping adequate records to document eligible project costs and to demonstrate compliance with EPA requirements, including grant conditions.

9. Publications

While the preplanning conference is an extremely useful method of assisting potential grant applicants, publications prepared by State agencies or EPA are also an effective tool for guiding grant applicants. Most States have prepared packets of information which are directed toward specific aspects of the grant application process. Where these packets are available and contain current or updated material, they should be used.

On the National level, the principal publication prepared by EPA to assist potential grant applicants is "Construction Grants 1985" (CG-85). The CG series will be updated on a periodic basis to reflect current policies and regulatory requirements. The CG series is intended to serve as the principal guidance document for grant applicants and grantees, throughout the entire grant processing period.

Other EPA guidance documents are published periodically, addressing subjects such as financial and managerial capability, project performance standards, abandonment of treatment works, failed treatment works, etc. The reviewing agency is responsible for distributing the appropriate guidance materials in a timely manner.

As the reviewing agency distributes guidance materials, caution must be exercised to insure that the grant applicant is not inundated with so much material, including regulations, that the overwhelming volume causes the grant applicant to be confused and frustrated. Rather, the reviewing agency should be selective in the volume and timing of distribution of guidance materials, and should point out to each grant applicant the most important publication that coincides with the current stage of development of its project.

E. ADVANCE OF ALLOWANCE

Purpose:

Provide financial assistance to small communities which would otherwise be unable to complete facilities planning and/or project design.

Discussion:

The 1981 CWA amendments allow State agencies to apply to EPA for a grant, under which the State can provide advances of allowance to small communities which are potential grant applicants. States in turn may request that the advance be paid directly by EPA to designated potential grant applicants.

Several important limitations concerning advance of allowance must be clearly understood by the grant applicant:

- The State is responsible for establishing the criteria under which communities may qualify to receive an advance of allowance (see Section VI.K.1.a)
- The allowance is estimated based on the procedures outlined in 40 CFR Part 35, Subpart I, Appendix B.
- The amount of the advance may not exceed the Federal share (generally 55 percent) of the estimated allowance (see Section VI.L.2).
- The State will determine the percentage of the allowance which will be advanced (not to exceed the Federal share), and the timing of payments of the advance (see Sections VI.K.1.c and VI.K.1.d).
- The allowance is based on the estimated allowable building costs, including acquisition of eligible land and force account, and excluding engineering, fiscal, legal, and other costs not considered part of the building costs (see Section VI.L.1).
- The allowance is not to be considered as a guide in establishing engineering costs for facilities planning and design. Rather, the portion of the allowance which is advanced is intended to help offset these costs.
- If the grant applicant subsequently receives a grant award, the advanced funds will be subtracted from the computed grant. If a grant is not subsequently awarded, the State agency may seek repayment of the advance, on such terms and conditions as the State may determine (see Section VI.K.1.e).

Procedures:

Unlike most of the other activities described in this Handbook, advances of allowance are administered by the State agency, regardless of whether or not it has signed a delegation agreement with EPA. Thus, an applicant for an advance of allowance must follow the procedural requirements established by the State agency. The State reviewer is to insure that the applicant has:

1. applied for the advance using the form or format specified by the State (see Section VI.K.1.b);

2. met the State's definition of a small community (see Section VI.K.1.a.i);

3. met all other State criteria to qualify for an advance (see Section VI.K.1.a.ii);

4. correctly computed the estimated allowable building cost, which includes the estimated cost of:

    a. the initial award of all prime subagreements for building the project (but not the cost of inspection and other engineering services),

    b. the initial approved force account work to be performed in lieu of awarding a subagreement for building the project (but not in lieu of awarding a subagreement for inspection and other engineering services), and

    c. the purchase of eligible real property;

5. correctly computed the "percentage of building cost" from 40 CFR Part 35, Subpart I, Appendix B, Table 1 (if no Step 1 or Step 2 grant was previously awarded for the project) or Table 2 (if a Step 1, but no Step 2 grant was previously awarded for the project);

6. used the correct Federal share of 55 percent (unless the project has been "grandfathered," or a lower Federal share has been set by the Governor, with EPA approval), plus an additional Federal share of up to 20 percent for I/A projects (see Sections VI.D.10.d.ii and VI.L.2);

7. correctly computed the estimated allowance as the product of the estimated allowable building cost (see Item 4 above) and the "percentage of building cost (see Item 5 above), and correctly computed the maximum advance allowed under the EPA regulations as the product of the estimated allowance and the Federal share (see Item 6 above);

8. applied for either the maximum advance allowed under the EPA regulations, or a lower amount mandated by the State (see Section VI.K.1.c); and

9. requested payment of the appropriate percentage of the advance, or of the entire advance, depending on State requirements (see Section VI.K.1.d).

Payment procedures for advances of allowance are discussed in Section IX.B.8.c.

CHAPTER IV

FACILITIES PLANNING

A. INTRODUCTION

B. REGULATORY REQUIREMENTS

C. FACILITIES PLAN CONTENTS

D. FACILITIES PLAN APPROVAL

E. SUPPLEMENTAL CONSIDERATIONS

A. INTRODUCTION

This chapter describes the requirements and procedures for reviewing facilities plans. Some sections provide complete details for a specific subject, while other sections reference more detailed discussions in other chapters.

Section B, Regulatory Requirements, describes regulations and guidance documents which are applicable, based on the date that facilities planning was initiated. This section also discusses the relationship between facilities plans and water quality management (WQM) plans, and provides a brief introduction to the general requirements for facilities planning.

Section C, Facilities Plan Contents, representing the bulk of the chapter, describes the procedures for reviewing facilities plans, from the need for the project through evaluation of alternatives and plan selection.

Section D, Facilities Plan Approval, primarily discusses the National Environmental Policy Act (NEPA) and related environmental laws which must be considered as the reviewing agency decides whether or not to prepare an environmental impact statement (EIS).

Section E, Supplemental Considerations, describes three items which are applicable to a limited number of projects: advanced treatment reviews, industrial pretreatment, and combined sewer overflow (CSO) projects.

B. REGULATORY REQUIREMENTS

1. Facilities Planning Regulations

Since 1972, three major sets of regulations describing the requirements for facilities planning have been published by EPA. These regulations and the corresponding edition of the Handbook of Procedures in which they are discussed ae identified below.

Final regulations for facilities planning, implementing the 1972 Clean Water Act (CWA) amendments, were promulgated on February 11, 1974, at 40 CFR 35.917. The first edition of the Handbook of Procedures, dated February 1976, included procedures for reviewing facilities plans in accordance with these regulations.

Regulations implementing the 1977 CWA amendments were promulgated on September 27, 1978, which revised the facilities planning requirements at 40 CFR 35.917. The second edition of the Handbook

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of Procedures, dated 1980, included changes in the facilities planning requirements and review procedures resulting from promulgation of the revised regulations.

The 1981 CWA amendments eliminated Step 1 (facilities planning) and Step 2 (design) grants, replacing them with an allowance to help defray costs in carrying out facilities planning and/or design work. Extensive changes to the construction grants regulations were required to implement these amendments. Final regulations implementing the 1981 amendments were promulgated on February 17, 1984, with facilities planning requirements located at 40 CFR 35.2030. This third edition of the Handbook of Procedures reflects changes in the requirements and review procedures for facilities plans based on the February 17, 1984 final regulations.

The preamble to the February 17, 1984 regulations (40 CFR Part 35, Subpart I) reads in part, "This regulation is effective for all grants awarded on or after February 17, 1984. Facilities plans and design initiated under 40 CFR Part 35, Subpart E continue to be subject to the requirements in Subpart E. Unless required by the 1981 amendments, no revisions to the facilities plan or design will be required. Work done under Subpart E will be accepted for grant awards under this subpart."

In addition to the three editions of the Handbook of Procedures, for use by reviewing agency officials, EPA has published four guidance documents for use by grantees and grant applicants. These four guidance documents include detailed discussions of facilities planning requirements, and reflect regulations and policies in effect at the time of publication. "Guidance for Preparing a Facility Plan, Revised May 1975" (MCD-46) was based on the February 11, 1974 regulations. "Facilities Planning 1981" (FP-81) reflected the September 27, 1978 regulations. "Construction Grants 1982" (CG-82) provided guidance, including requirements for facilities planning, between passage of the 1981 amendments and publication of the February 17, 1984, final regulations. "Construction Grants 1985" (CG-85), the companion document to this third edition of the Handbook of Procedures, includes guidance for grant applicants in satisfying the requirements, including facilities planning, of the February 17, 1984 final construction grants regulations.

Project reviewers are to insure that facilities plans, as well as design and construction requirements, are reviewed in accordance with the regulations, policies, and guidance applicable at the time the work was initiated. Where facilities plans were prepared with Step 1 grant assistance, the preamble statement above clearly indicates that they are to be reviewed in accordance with the 40 CFR Part 35, Subpart E regulations in effect at the time of grant award.

However, prior to Step 3 grant award, older facilities plans may require updating to reflect current data (e.g., existing population, land uses, costs, etc.). The effect of the reduced Federal grant share after September 30, 1984 (usually 55 percent), and the resultant larger local share, may require additional public disclosure and/or financial arrangements.

The review of facilities plans initiated by a grant applicant without the benefit of grant assistance (most likely between December 29, 1981 and February 17, 1984) requires judgement on the part of the reviewing agency with regard to the application of either Subpart E or the interim (May 12, 1982) Subpart I regulations (see Sections VI.C.2 and VIII.B.1.c). Facilities planning initiated by a grant applicant after February 16, 1984 is subject to the final regulations published by EPA on February 17, 1984.

To assist construction grants personnel in identifying applicable regulations and policies in effect at the time of initiating project work, EPA has published the "Regulation and Policy Matrix - A Guide to the Rules Governing Grants Awarded under the Construction Grants Program", dated December 1983. Using this guide, the project reviewer has the ability to identify regulations, policies, and the edition of the Handbook of Procedures applicable to the specific project.

Re: Preamble to 40 CFR Part 35, Subpart I, 49 FR 6225 (February 17, 1984).

2. National Environmental Policy Act

Regulations implementing NEPA represent the other major source of requirements used in reviewing facilities plans. EPA's regulations implementing NEPA are located at 40 CFR Part 6.

Proposed regulations based on NEPA, Executive Order 11514, and the Council on Environmental Quality (CEQ) Guidelines, were first published by EPA on January 20, 1972. They became interim regulations on January 17, 1973, were revised as proposed on July 17, 1974 and were finalized on April 14, 1975. During this period the regulations were expanded to include other Federal environmental laws and executive orders. On June 18, 1979, EPA proposed to completely revise Part 6, based on changes required by the promulgation of CEQ's regulations (not guidelines as before).

The revised 40 CFR Part 6, published as interim regulations on March 8, 1982 and interim/final on January 7, 1983, included changes to the criteria for requiring preparation of an EIS; introduced a procedure for excluding certain types of projects from substantive environmental review, called a categorical exclusion (see Section III.D.7); and changed terminology to agree with the new CEQ regulations. For example, a "negative declaration" was changed to a "finding of no significant impact" (FONSI).

At the time of preparation of this third edition of the Handbook of Procedures, EPA was in the process of revising 40 CFR Part 6 to conform to the 1981 CWA amendments. Also, in 1980 the EPA Office of Federal Activities prepared draft procedures for complying with Section 106 of the National Historic Preservation Act. The draft procedures were written as regulations intended for incorporation into 40 CFR Part 6 as Subpart K. These proposed regulations were intentionally delayed, pending revisions to the Advisory Council on Historic Preservation (ACHP) regulations (36 CFR Part 800). For a number of reasons, these regulations continue to be delayed. In March 1984, EPA distributed its proposed Subpart K regulations as non-binding guidance, to assist Regions and States in the review of actions that could affect historic and archaeological properties, and to fully integrate the statutory requirements of the National Historic Preservation Act into the NEPA review process.

Project reviewers are advised to monitor the status of the pending changes to 40 CFR Part 6 as a project is being reviewed.

Re: 40 CFR 6.301

3. Water Quality Management Plans

A portion of the funds allotted to each State are reserved for grants to carry out WQM planning (see Sections II.C.4 and II.E.4). Among other things, WQM planning identifies cost effective and locally acceptable facilities to achieve and maintain the applicable water quality standards. WQM planning will also determine which publicly owned treatment works (POTWs) should be constructed, in which areas, and in what sequence.

Two limitations on award of grant assistance (see Section VI.D.2) require a project to be consistent with the approved elements of any applicable WQM plan, and the grant applicant to be the wastewater management agency designated in that WQM plan.

A complete description of WQM planning is given in Chapter II. As project reviewers are preparing to review facilities plans, they should be aware of the WQM plan which has been prepared for the project area, and insure that the facilities plan is consistent with that WQM plan. Differences or inconsistencies may require revision of either the facilities plan or the WQM plan.

Re: 40 CFR 35.2023(a)(1) and (a)(4), 35.2102

4. Facilities Planning Review

Facilities planning is the first major activity undertaken by a potential grant applicant as a prerequisite to grant award. Facilities planning consists of those necessary plans and studies which directly relate to treatment works needed to comply with enforceable requirements of the CWA. Facilities planning investigates the need for proposed facilities through a systematic evaluation of alternatives that are feasible in light of the unique demographic, topographic, hydrologic, and institutional characteristics of the area; and demonstrates that the selected alternative is cost effective. The regulations define "cost effective" as "the most economical means of meeting the applicable effluent, water quality, and public health requirements over the design life of the facility while recognizing environmental and other nonmonetary considerations."

In order to further clarify the intent of facilities planning, the regulations include a description of facilities plan contents at 40 CFR 35.2030(b), which provides that a facilities plan must describe both the proposed treatment works and the complete waste treatment system of which it is a part. A facilities plan must also include an adequate evaluation of the environmental impact of alternatives, in accordance with 40 CFR Part 6. The two regulations (i.e., 40 CFR Part 6 and 40 CFR Part 35, Subpart I) are the primary source documents which set forth the requirements for facilities planning.

Facilities planning is considered by many to be the most complex aspect of the construction grants program. Its complexity is primarily related to the subjective interrelationships between engineering feasibility, economic and environmental considerations, public acceptance, and institutional arrangements necessary for project implementation. The need to adequately address, evaluate, and integrate these considerations very often requires expertise from several disciplines. The importance of each consideration may vary from project to project, and may be related to the size and complexity of the project, its geographic location, and the perceived values of the grant applicant.

While the regulations describe the contents of a facilities plan, they do not specify the format for presentation of the required information. Recognizing that grant applicants needed assistance in this area, EPA published "Guidance for Preparing a Facility Plan" (MCD-46), which was revised in May 1975. This publication contained a suggested outline designed to satisfy regulatory requirements for facilities planning. Since 1975, EPA has not found it necessary to revise the suggested outline, since it continues to present the required information in a sequence corresponding to the logical preparation of a facilities plan. EPA has, however, published other documents, targeted to grantees or grant applicants, which address facilities planning (e.g., FP-81, CG-82, and CG-85). These documents incorporate new statutory requirements and seek to clarify and elaborate many of the considerations in facilities planning (see Section B.1 above).

Re: 40 CFR 35.2030

C. FACILITIES PLAN CONTENTS

The following sections describe the contents of a facilities plan, using a suggested outline for presentation of the required information. However, a grant applicant may select his own method or format.

The suggested outline uses a numerical system for chapters and subheadings. Some of the information is self explanatory and is so noted. Other information follows the general format of this Handbook and is described by a Purpose, Discussion, Review Procedure, and References.

1. Summary, Conclusions, and Recommendations

Self-explanatory.

2. Purpose and Need

2.1 Study Purpose

A facilities plan is prepared as one component of an application for grant assistance. The facilities plan establishes the need for the project; evaluates alternative solutions; and selects a cost effective, environmentally sound project. The facilities plan also represents a public record of decision-making and should be written to provide the general public, municipal officials, and regulatory officials with a clear understanding of the problem, solutions, and consequences of the project. The proposed project must satisfy all applicable Federal and State laws and regulations.

2.2 Need for the Project

Purpose:

A facilities plan must establish the need for the proposed project and demonstrate how the project, or the complete treatment system of which it is a part, will meet the enforceable requirements of the CWA.

Discussion:

Demonstration of project need may range from a relatively simple to a complex justification. Relatively simple cases arise where an existing treatment works is in violation of its National Pollutant Discharge Elimination System (NPDES) permit, or the municipality is under a court or enforcement order requiring corrective action. The need for the project is represented by the regulatory directive to abate water pollution.

An example of a more complex case, in terms of demonstrating need, is where a municipality claims need based on failing onsite systems. Since no discharge permit exists, the facilities plan must demonstrate the need for the project based on the extent of surface or ground water use restoration or public health improvement resulting from the project. In order to demonstrate project need, a grant applicant may be required to document the number, frequency, type, and location of failing onsite systems through the use of local health department records, survey questionnaires, or house-to-house surveys. Earlier EPA policy required this type of specific documentation. However, present agency policy allows States and EPA Regions to determine the type of documentation required to substantitate failing onsite systems on a case-by-case basis.

Another relatively complex case, requiring judgement in terms of demonstrating need, concerns proposed CSO projects. Depending on the source of funding from the States' allotment, the State may have to demonstrate that significant uses of the water for fishing and swimming will not be possible without the project, and that the project will result in substantial restoration of an existing impaired use (see Sections II.E.3 and VI.G).

Other types of eligible projects, (in States where the Governor elects to include project categories not normally eligible for grant assistance after September 30, 1984) for which a unique approach may be necessary to demonstrate project need include: infiltration/inflow (I/I) correction, major sewer system rehabilitation, and treatment more stringent than secondary (see Section II.E.3).

A demonstration of project need is not necessarily an easy task, and will require unique documentation depending on the circumstances of a particular project. Project need may also be demonstrated throughout many sections of a facilities plan, rather than being presented in one chapter or section. With regard to acceptance of the grant applican't demonstration of project need, the principal responsibility of project reviewers is to insure that the proposed project, or the complete treatment system of which the project is a part, meets the enforceable requirements except as noted in the review procedures below.

Review Procedures:

A facilities plan must demonstrate project need in terms of meeting the enforceable requirements of the CWA by:

a. including a copy of regulatory directives (e.g., NPDES permit requirements, court or enforcement orders, etc.) in the case of existing treatment facilities; or

b. substantiating that the proposed project will reduce pollution and result in surface or ground water use restoration or public health improvement.

An exception to this requirement may apply to certain "sewer projects," as described in Section II.E.3.

Re: 40 CFR 35.2000(a), 35.2015(b) and (f), 35.2024(a), 35.2030(a)(1)

3. Effluent Limitations

Purpose:

Effluent limitations establish the effluent characteristics for surface water discharges, or the quality of groundwater to be maintained for land application systems.

Discussion:

Effluent from a treatment works is either discharged to a surface water body, recharged to groundwater, recycled for other uses, or evaporated in containment ponds. For containment ponds, assuming that the ponds are lined to prevent seepage into the groundwater, no effluent limitations are required. Recycled effluents must meet the characteristics necessary for their intended use. However, if the recycled effluent is eventually discharged to a surface water body or to groundwater, the recycled effluent must satisfy the applicable effluent limitations.

Facilities plans are required to describe the Best Practicable Wastewater Treatment Technology (BPWTT) applicable to each alternative under consideration. BPWTT is defined in the regulations as the cost effective technology that can treat wastewater, CSOs, and nonexcessive I/I to meet the applicable provisions of:

a. 40 CFR 122.44(d) - Water Quality Standards and State Requirements;

b. 40 CFR Part 125, Subpart G - Criteria for Modifying the Secondary Treatment Requirements under Section 301(h) of the Clean Water Act;

c. 40 CFR Part 133 - Secondary Treatment Information; and

d. 41 FR 6190 (February 11, 1976) - Alternative Waste Management Techniques for BPWTT (treatment and discharge, land application techniques and utilization practices, and reuse).

BPWTT defines a minimum level of treatment, as well as provisions for higher levels, where necessary to achieve or maintain water quality standards. Projects proposing higher levels of treatment (i.e., advanced treatment) may be subject to EPA's "Policy for Review of Advanced Treatment Projects" (see Item 3.3 below).

3.1 Secondary Treatment

The 1981 CWA amendments added Section 304(d)(4) to the CWA, which states that "such biological treatment facilities as oxidation ponds, lagoons, and ditches and trickling filters shall be deemed the equivalent of secondary treatment." However, Section 304(d)(4) also requires "that water quality will not be adversely affected by deeming such facilities as the equivalent of secondary treatment."

In implementing these provisions of the CWA, EPA conducted extensive studies of existing facilities to determine the effluent characteristics required to insure that water quality standards would not be violated. The investigation concluded that oxidation ditches are appropriately classified as treatment processes capable of providing secondary treatment. Oxidation ponds and lagoons, referred to as waste stabilization ponds in the regulations, and trickling filters were classified as equivalent treatment processes. All other biological treatment processes were found to be capable of achieving secondary treatment.

EPA has defined the minimum level of effluent quality attainable by secondary treatment in terms of the parameters five-day biochemical oxygen demand (BOD_5), suspended solids (SS), and pH as:

- BOD_5 and SS - 30 day average shall not exceed 30 milligrams per liter (mg/l); 7 day average shall not exceed 45 mg/l; 30 day average percent removal shall not be less than 85 percent; and

- pH - effluent maintained within the limits of 6.0 to 9.0 (certain exceptions are allowed).

States may also define secondary treatment in terms more stringent than EPA's, as discussed below.

Treatment deemed equivalent to secondary treatment is proposed to be defined in terms of the parameters BOD_5, SS, and pH as:

- BOD_5 and SS - 30 day average shall not exceed 45 mg/l; 7 day average shall not exceed 65 mg/l; 30 day average percent removal shall not be less than 65 percent; and

- pH - effluent maintained within the limits of 6.0 to 9.0 (certain exceptions are allowed).

The proposed regulations contain several cases which may require special consideration. These cases involve combined sewers; industrial wastes discharged into POTWs; and possible changes to the SS levels for waste stabilization ponds. Regulations providing for adjustment by the State, with EPA approval, of equivalent treatment for trickling filters were proposed on November 16, 1983. In these cases, the project reviewer is to refer to the appropriate section of the proposed secondary treatment regulations for specific requirements.

Project reviewers should also be aware that EPA is proposing a transition period during which the effluent parameter carbonaceous biochemical oxygen demand ($CBOD_5$) may be used in lieu of the more common BOD_5. It has been determined that $CBOD_5$ more accurately reflects treatment performance with regard to organic material than BOD_5. Where $CBOD_5$ is used, the secondary treatment definition will change for 30 and 7 day averages to 25 mg/l and 40 mg/l respectively. EPA has not proposed to allow the same substitution for treatment processes deemed equivalent to secondary treatment.

Re: Proposed amendment to 40 CFR Part 133, 48 FR 52258 (November 16, 1983)

3.2 Marine Discharge Waivers

Refer to Section VI.E.2 for a discussion of requirements applicable to projects with marine discharge waivers.

3.3 Advanced Treatment

Effluent limitations more stringent than secondary treatment (i.e., advanced treatment) may be established by a State for water-quality-limited stream segments.

These effluent limitations are determined in the WQM plan, and are based on the wasteload allocation for the specific stream segment into which the effluent is discharged (see Section II.C.3). Where advanced treatment is required to achieve or maintain water quality standards, and where the incremental costs exceed specific limitations, such projects are subject to a more intensive review by the State, EPA Regional Office, and possibly EPA Headquarters. Refer to Section E.1 below for a discussion of the review and processing procedures for such projects.

3.4 Land Application

Wastewater effluent applied to land may either recharge the groundwater, be collected for disposal to surface water bodies, or a combination of both. Surface water discharges are subject to the effluent limitations defined in Item 3.1 above. Effluents which recharge groundwater may not themselves be directly subject to effluent limitations. Rather, the quality of groundwater is defined, depending on current or potential uses, which in turn indirectly establishes the effluent limitations for the applied wastewater.

EPA's definition of BPWTT for groundwater discharges considers three cases:

a. groundwater which can potentially be used for a drinking water supply,

b. groundwater which is used for a drinking water supply, and

c. uses other than for a drinking water supply.

In the first two cases, the groundwater quality should not exceed the National Interim Primary Drinking Water Regulations (40 CFR Part 141) for organic and inorganic chemicals. Where the groundwater is presently used for drinking water, the groundwater should also satisfy the microbiological contaminent levels of these regulations. The groundwater quality for other uses is to be established jointly by the State and EPA on a case-by-case basis.

Review Procedures:

The project reviewer is to determine that the correct set of effluent limitations has been identified for each alternative. The effluent limitations may vary, depending on the location of the surface water discharge or the treatment process employed. Effluent limitations may be contained in NPDES permits for existing facilities, and in WQM plans or EPA regulations for proposed new facilities. Insure that:

a. effluent limitations for secondary treatment, or for treatment deemed equivalent to secondary treatment, are established for each surface water discharge alternative;

Re: Proposed amendment to 40 CFR Part 133, 48 FR 52258 (November 16, 1983)

b. documentation supporting a request for a marine discharge waiver meets regulatory requirements;

Re: 40 CFR 35.2112; 40 CFR Part 125, Subpart G

c. treatment more stringent than secondary treatment is required based on water quality standards, and the project has been or will be reviewed under EPA's Advanced Treatment Policy;

Re: 40 CFR 35.2101; EPA notice "Policy for Review of Advanced Treatment Projects," 49 FR 21462 (May 21, 1984)

d. CSO projects satisfy case-by-case determinations for effluent limitations;

Re: 40 CFR 35.2024, 133.103(a)

e. projects proposing groundwater recharge identify present and future groundwater uses, apply applicable requirements of the National Primary Drinking Water Regulations, and propose a monitoring program.

Re: 40 CFR Part 141

4. Existing Environment

4.1 Existing Conditions in the Planning Area

Purpose:

Describe the existing conditions in the project planning area in order to form a basis of comparison among alternatives and to identify unique features of the planning area which may influence the selection of the recommended plan.

Discussion:

One alternative required to be discussed in a facilities plan is "no action" (i.e., what happens to the planning area if no wastewater project is built). The existing planning area description, therefore, paints a picture (maps, charts, or tables are also useful) which allows municipal officials, the general public, and regulatory officials to gain an understanding of the existing environment. It provides the basis from which to assess future conditions.

Review Procedures:

Suggested topics which describe the existing environment in the planning area are included below. The listing serves as a guide to project reviewers to insure that all relevant environmental features are included in the facilities plan. Where appropriate, sources of information should be cited or referenced:

a. surface and groundwater hydrology (quantity, quality, and uses);

b. physiography, topography, geology, and soils;

c. precipitation, temperature, and prevailing winds, if relevant;

d. air quality;

e. noise levels;

f. energy production and consumption;

g. population (both historical and present) and socioeconomic conditions;

h. land use and development, including zoning and relationship between all governmental agencies involved in the planning, financing, construction, and operation of POTWs;

i. public facilities and services;

j. organizational context, including the role and relationship between all governmental agencies involved in the planning, financing, construction, and operation of POTWs;

k. documented cases of septic system failures or public health problems, fish kills, or well contamination directly related to water pollution;

l. related Federal, State, and other projects in the planning area; and

m. other existing environmental conditions such as:

    i. wetlands,

    ii. flood plains,

    iii. coastal zones,

    iv. wild and scenic rivers,

    v. important farm lands,

    vi. historic and archaeological sites,

    vii. national and natural landmarks, and

    viii. plant and animal communities and habitats which may be affected, especially those on the threatened or endangered species list.

The reviewer is to take special note of the underlined items above, since these items are the subject of Federal laws or executive orders, and will require special review procedures (see Sections D.1 and D.2 below).

Re: 40 CFR 6.506(a), 6.507(c)(1) and (4)

4.2 Existing Wastewater Flows and Treatment System Performance

Purpose:

Describe the existing treatment facilities, their performance, and the complete waste treatment system, to provide an inventory of treatment facilities (including onsite disposal systems), their interrelationships, and the base line flow information from which future flows will be forecast.

Discussion:

The information in the description should indicate the conditions which limit the number of feasible alternatives or the severity of the pollution problem. The performance of existing facilities should also be included in the description. Many existing facilities, including onsite systems, are not operated at their optimum efficiency. The reasons for poor performance are numerous. However, it is generally more cost effective and environmentally sound to elevate existing facilities to optimum performance rather than to abandon them. Even if existing facilities are not capable of achieving the applicable effluent limitations, portions of the system may be used as an alternative or supplement to construction of new facilities.

Where the planning area includes a substantial number of onsite systems, their performance, including the nature, type, location, and frequency of failure, should also be described (see Item 2.2 above).

Review Procedures:

In reviewing the description of existing facilities and their performance, the reviewer is to note the conditions which support the need for the project or limit the selection of feasible alternatives, and insure that an alternative which utilizes existing facilities has not been overlooked. Items which may be included in the description include:

a. the location of all treatment plants, sludge management and pretreatment facilities, pumping stations, and collection systems;

b. design capacity, existing flows, characteristics of wastes, and overloaded conditions;

c. location and description of major industrial discharges;

d. significantly developed areas served by onsite systems;

e. an analysis of average, peak, and wet weather flows (also see Item 4.3 below);

f. location of all bypasses and overflows;

g. extent of combined sewers;

h. treatment plant performance compared with the NPDES permit;

i. operation and maintenance (O&M) program (compare with operating reports submitted to the State);

j. the effects of I/I (see Item 4.3 below); and

k. documentation of problems with onsite systems (see Section 2.2 above).

Re: 40 CFR 35.2030(b)(3)(iii)

4.3 Infiltration and Inflow

Purpose:

The facilities plan must demonstrate that each existing sewer system discharging into the proposed treatment works project is not or will not be subject to excessive I/I.

Discussion:

I/I represents extraneous flow. If I/I is discharged into a treatment works, it utilizes capacity in sewer lines and the treatment plant, dilutes the wastewater, requires electrical power for pumping and treatment, and otherwise increases the cost of transport and treatment of wastes. Infiltration is generally groundwater which leaks into the sewer system through defective joints, house connections, defective manhole connections, or broken sewer lines. Inflow is generally related to storm events, and may result from cross connections with storm sewers, illegal connections from down spouts, area drains, sump pumps, flooded manholes, etc. Infiltration tends to be an average phenomena, which varies during the year according to the fluctuations in groundwater level. Inflow tends to be a peaking phenomena, which varies with the frequency, duration, and intensity of rain storms.

Excessive I/I is defined as the quantities of I/I which can be economically eliminated from a sewer system, as determined in a cost effectiveness analysis that compares the costs for correcting the I/I conditions to the total costs for transportation and treatment of the I/I.

Earlier EPA construction grants regulations (40 CFR 35.927) were procedurally specific with regard to a determination of excessive I/I. These regulations required a sewer system evaluation consisting of an I/I analysis, followed by a sewer system evaluation survey, if required, and a sewer rehabilitation program. Based on more than ten years of experience, EPA has determined that less procedural specificity is desirable. Current regulations allow considerable flexibility in determining if a sewer system contains excessive I/I. State agencies should work with grant applicants to establish a program for I/I investigations, which is tailored to the unique characteristics of the project.

EPA has also determined that certain limiting criteria may be used to determine nonexcessive I/I. Nonexcessive infiltration is defined as the quantity of flow which is less than 120 gallons per capita per day (gpcd), including both domestic base flow and infiltration, or the quantity of infiltration which cannot be economically and effectively eliminated. Nonexcessive inflow is defined as the rainfall induced peak inflow rate which does not result in chronic operational problems related to hydraulic overloading of the treatment works during storm events, such as surcharging, backups, bypasses, and overflows. Various studies have found that the domestic base flow and nonexcessive infiltration, plus this inflow rate, is about 275 gpcd for most of the Nation's wastewater treatment systems. Therefore, if a grant applicant's average daily flow during rain storm events is less than 275 gpcd, it can generally be assumed that the wastewater treatment system is not subject to excessive inflow.

If a grant applicant can demonstrate that the domestic base flow plus infiltration is less than 120 gpcd and that no chronic operational problems are experienced during rain events, no further I/I work is required. If the flow rate is not significantly more than 120 gpcd, the grant applicant may proceed, with reviewing agency approval, without further study. However, in this case the allowable project cost will be limited to the cost of a project with a capacity of 120 gpcd for the existing residential population. If a grant applicant cannot demonstrate these conditions, further I/I investigations will be necessary, as briefly described in the next paragraph. The criteria described above is equally applicable to excessive infiltration in CSO projects, but inflow is never considered excessive in CSO projects.

In determining if a sewer system contains excessive I/I, the grant applicant will analyze the treatment plant flow records, compare the sewage flows against water consumption records, possibly conduct flow monitoring at selected manholes or pumping stations, and otherwise conduct a field investigation, if necessary, to determine the quantity and source of I/I. The comparison of estimated costs to eliminate portions of the I/I will determine if the I/I is excessive. Where a portion of the I/I is determined to be excessive, the grant applicant must propose a sewer system rehabilitation program to eliminate the excessive I/I. Normally, sewer system rehabilitation is carried out after grant award, and the excessive I/I to be eliminated becomes part of the grantee's project performance standards (see Sections VI.M.5.g and VII.I.2).

The facilities plan includes a demonstration of the nonexistence or possible existence of excessive I/I in the sewer system. Data supporting the conclusion may be contained in or appended to the facilities plan. It is important to note that the results of the I/I investigation are essentially two numbers, namely: the nonexcessive I/I and the excessive I/I, if any. Nonexcessive I/I is added to the existing domestic, commercial, and industrial base flow, to establish a total existing flow for the proposed treatment works. This flow is particularly important since after September 30, 1984, construction grants are limited to the capacity required to serve existing needs on the date of grant award (see Section VI.D.18).

Review Procedures:

For grant applicants whose project includes existing sewer systems, insure that the proposed treatment works is not, and will not be, subject to excessive I/I though a determination that:

a. An I/I study has been conducted which identifies the quantity of I/I.

b. Based on the criteria of 120 gpcd for domestic base flow plus infiltration, and 275 gpcd for domestic base flow plus infiltration and peak inflow, it is concluded that:

    i. excessive I/I does not exist, in which case no further study is required; or

    ii. excessive I/I may exist, in which case the grant applicant must either:

        - conduct further study, including a cost effectiveness analysis, to more accurately determine the existence of excessive I/I, and propose a sewer rehabilitation program where appropriate; or
        - propose that the treatment works be designed to accomodate domestic base flow plus infiltration which is not significantly more than 120 gpcd, in which case the allowable project cost will be limited to the cost of a project with a capacity of 120 gpcd.

c. The methods and data used in analyzing I/I are sufficient to support the results and conclusions in Items a and b above.

d. The quantity of nonexcessive I/I has been determined and is used as one component of the average daily base flow.

e. Where a sewer rehabilitation program is proposed, the cost estimates, schedule, and projected results are reasonable, and represent realistic expectations for excessive I/I reductions which can be included in a future grant agreement as part of the project's performance standards. The schedule must provide for completion of sewer rehabilitation no later than one year after project initiation, in order to coincide with completion of the project performance certification (see Section VII.I.2).

Project reviewers may find it helpful to read the "Handbook for Sewer System Evaluation and Rehabilitation," EPA 430/9-75-021 (formerly MCD-19), dated December 1975. While the regulatory and procedural requirements in the Handbook are out of date, the technical discussions and approaches remain valid.

Re: 40 CFR 35.2005(b)(16), (b)(20), (b)(21), (b)(28), and (29); 35.2030(b)(4), 35.2120, 35.2218(c); 40 CFR Part 35, Subpart I, Appendix A, Paragraph G; EPA publication, "Determination of Excessive/Nonexcessive Inflow Rates," May 1984

5. Future Conditions

Future conditions in the planning area are described in order to form a basis for identifying alternative wastewater systems which will solve the water pollution problems. Future conditions are also contrasted with the existing environment in order to evaluate the environmental impacts of the proposed project. In the description of future conditions, the grant applicant should describe unique environmental characteristics of the planning area which must be protected, and suggest mitigation measures which may be employed to minimize adverse impacts. Where appropriate, the description should also include an analysis of the potential open space and recreation opportunities associated with the project.

The following sections describe several significant considerations which are representative of future conditions.

Re: 40 CFR 35.2030(b)(1), (b)(3)(ii), and (b)(5)

5.1 Planning Period

The cost effectiveness analysis, which is the core of facilities planning, includes the evaluation of alternative wastewater systems designed to solve the water pollution problems. The planning period for the cost-effectiveness analysis is 20 years. Therefore, future projections must be based on a 20 year planning period.

The planning period is distinguished from the project's design life and the useful life of the project and its components. Design life is the period for which a treatment works is planned and designed to be operated. Useful life is the period for which the components of a treatment works are expected to operate, before needing replacement.

The distinction between the planning period and the design life of a project becomes important during facilities planning. A grant applicant must consider needs and compare alternatives based on a 20 year planning period. However, in some circumstances the project's design life may be for a shorter period, based on the results of the cost effectiveness analysis, the community's financial and managerial capability, projected environmental impacts, or uncertainty surrounding population or economic growth forecasts. In these cases, staging or construction may be more financially and environmentally sound. However, each stage must be a part of the final 20 year facility and not an interim facility. In other cases, such as the upgrading of an existing treatment plant with no projected growth in the planning area, existing needs may correspond with the 20 year planning period and the project's design life.

The distinction between the design and the useful life may also be significant when reviewing the cost effectiveness analysis and the user charge (UC) system. As a part of the cost effectiveness analysis, the cost of each alternative and its major components are estimated. Some components may have a 40 year useful life (e.g., concrete structure) while others may have a 15 to 20 year useful life (e.g., process equipment). Land, on the other hand, has an indefinite life. As alternatives are evaluated, the salvage value of the treatment works and its major components are computed. Also, replacement costs for process equipment during the planning period must be considered in the cost effectiveness analysis.

Review Procedures:

During the review of the facilities plan, insure that the grant applicant has:

a. projected future conditions and needs for a 20 year planning period;

b. evaluated alternatives based on their cost effectiveness over the 20 year planning period, even though some alternatives may have a design life shorter than 20 years;

c. for staged facilities, developed a schedule and a financing plan for the construction of all subsequent stages, to provide adequate capacity for wastewater treatment needs during the 20 year planning period;

d. assigned reasonable, useful lives to major components of each alternative, and considered their salvage value at the end of the planning period; and

e. considered the replacement costs of process equipment over the 20 year planning period.

Re: 40 CFR 35.2005(b)(36) and (b)(50), 35.2030(b)(3)

5.2 Land Use Projections

Purpose:

Land use projections are used to establish future needs, satisfy or direct future development, and identify environmentally sensitive lands requiring protection from development.

Discussion:

Section 101(b) of the CWA states that, "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources" (underlining added). 40 CFR Part 35, Subpart I, Appendix A, Paragraph H.2.k, identifies as unallowable costs, "The cost of treatment works that would provide capacity for new habitation or other establishments to be located on environmentally sensitive land such as wetlands or flood plains." EPA's regulations implementing NEPA (40 CFR 6.506(c)(2)(v) and 6.507) identify additional environmentally sensitive lands, including important farm lands, acquifer recharge zones, archaeological and historic sites, National and natural landmarks, and habitats of endangered and threatened species. Other environmentally sensitive lands may include areas with steep slopes, drainage basins discharging into unique water bodies, parks and recreational areas, and areas containing unique vegetation. The facilities plan must identify environmentally sensitive areas, and develop alternatives which will protect them or which will provide mitigation of adverse environmental impacts.

Land use development patterns are projected over the 20 year planning period. After eliminating environmentally sensitive lands, the facilities plan projects development patterns and the resulting needs based on existing land use plans and zoning ordinances. The grant applicant should consult with planning agencies in the area, or with the State, to determine reasonable and environmentally sound future land uses.

Review Procedures:

Typical items which should be reviewed with regard to land use projections include:

a. present land uses as a means of identifying developmental patterns over the 20 year planning period;

b. identification and protection of environmentally sensitive areas;

c. comparison of land use plans and zoning ordinances against projected land uses to insure compatability; and

d. utilization of land use projections in estimating future development and wastewater flows.

Re: 40 CFR 6.506(c)(2)(v), 6.507, 35.2030(a)(1) and (b)(6); 40 CFR Part 35, Subpart I, Appendix A, Paragraph H.2.k

5.3 Population Forecast

Purpose:

Accurately forecast population growth, which is the source of future residential wastewater flows.

Discussion:

Future population growth over the 20 year planning period represents one component of future wastewater flows. EPA regulations require that population forecasting used in the cost effectiveness analysis be consistent with the current needs survey. The needs survey, prepared every 2 years by EPA, includes forecasts of statewide populations, based on information from the Bureau of Economic Analysis, U.S. Department of Commerce (see Section II.E.2). The statewide population forecast is disaggreated into smaller political subdivisions such as counties, municipalities, townships, etc. The grant applicant is to use the appropriate disaggregated population forecast from the needs survey, and compare this figure with that in the applicable WQM plan. Since the facilities plan must be consistent with approved elements of the applicable WQM plan, a possible conflict may arise between the population forecast in the needs survey and the WQM plan, due to the level of refinement in preparing the respective reports. If a conflict does exist, the grant applicant must consult with the reviewing agency in order to arrive at an approvable forecast.

Most States have identified disaggregated population forecasts for their respective political subdivisions. These figures represent the maximum populations to be used in facilities planning. Where disaggregated population forecasts are not available for a particular facilities planning area, the State should work with the grant applicant to establish reasonable population projections.

Review Procedures:

The facilities plan is to identify existing and future residential population. Future population forecasts must:

a. be projected for the 20 year planning period;

b. be consistent with EPA's current needs survey and approved elements of the applicable WQM plan (conflicts are to be resolved by the reviewing agency);

c. be consistent with disaggregated projections for small political subdivisions, within the State; and

d. be reasonable and acceptable to the State in the absence of projections based on the needs survey.

Re: 40 CFR 35.2030(b)(3), 35.2102

5.4 Industrial and Federal Facilities

Purpose:

Accurately forecast wastewater flows from industries and Federal facilities located in the planning area, which are potential wastewater contributors.

Discussion:

Wastewater discharged into a POTW from industries and Federal facilities will influence the capacity of the proposed project. Opportunities to reduce the volume of these discharges should be considered during facilities planning. Such industrial flows may also be subject to EPA's pretreatment requirements, which prohibit the discharge of toxic wastes in toxic amounts, as well as the discharge of wastes which limit the range of wastewater treatment and sludge disposal alternatives (see Section E.2 below).

EPA regulations require that during facilities planning, grant applicants obtain letters of intent from significant industrial dischargers, and from all industries intending to increase their flows or to relocate in the project planning area. Such letters must document capacity needs and characteristics of existing and projected flows. EPA grant assistance, however, may not be used to construct facilities exclusively or almost exclusively to serve industrial users.

Grant applicants may include a reasonable forecast of future unknown industrial flow, based on existing zoning. However, this forecast should be supported by documentation from industrial planning boards or other agencies concerned with economic growth. As general guidance, future unknown industrial flow exceeding 5 percent of the design flow or 25 percent of the existing industrial flow should be carefully reviewed and justified.

Proposed projects may also treat wastes from Federal facilities. However, EPA grant assistance may not include the costs for transport and treatment of wastes from Federal facilities if the wastes are more than 250,000 gallons per day, or 5 percent of the design flow, whichever is less.

Limitations concerning EPA grant assistance for the transport and treatment of flows from industries and Federal facilities are discussed in Sections V.I and VI.D.19. During facilities plan review, concern with industrial and Federal facilities is generally limited to projections of future flows. To the extent that a grant applicant does not understand the funding limitations associated with industrial and Federal waste treatment, as reflected in the financial section of the facilities plan, the project reviewer may wish to contact the grant applicant to discuss necessary revisions.

Review Procedures:

The facilities plan is to document existing and future flows from industries and Federal facilities. Documentation must include:

a. letters of intent from significant industrial users, and from all industries intending to increase their flows or to relocate in the planning area (must include capacity needs and characteristics for existing and projected flows);

b. recognition of grant funding limitation concerning discharges from industries and Federal facilities;

c. evaluation of opportunities to reduce industrial discharges; and

d. justification for unknown future industrial flows, based on zoning and economic development plans.

Re: 40 CFR 35.2030(b)(3)(ii), 35.2125, 35.2127

5.5 Flow Reduction

Purpose:

Evaluate opportunities to reduce flows, thereby reducing treatment plant capacity and costs.

Discussion:

Flow reduction analysis is an integral part of facilities planning, and is required unless explicit conditions for exemption are met. Wastewater flows determine the capacity of the treatment works and consequently the cost. Reductions in flow, therefore, reduce costs and contribute towards more efficient treatment by preventing dilution of wastewater. Flow reduction focuses on three areas: I/I (see Section 4.3 above); flow from industries and Federal facilities (see Section 5.4 above) and flows from residential and institutional contributors (see Section 5.3 above).

Construction grant regulations require an evaluation of alternative flow reduction methods unless:

- the grant applicant demonstrates that the existing average daily base flow from the planning area is less than 70 gpcd, or
- the reviewing agency determines that the area has an effective existing flow reduction program.

If these conditions are not met, the facilities plan must evaluate opportunities for flow reduction, taking into account the costs of: administration of a flow reduction program; public education and information programs; and retrofitting existing buildings with water saving devices. The evaluation should also consider savings realized through reduced or deferred operating costs for water supply and treatment systems, as well as wastewater treatment works.

Typical areas of investigation which may result in flow reduction include:

- changes in water and sewerage rates to promote conservation and flow reduction;
- installation of water meters or retrofitting existing homes and institutions with water saving devices; and
- changes in local ordinances or codes to require installation of water saving devices in new construction.

Where cost effective, the facilities plan should describe actions necessary for implementation of the flow reduction program.

Review Procedures:

Unless the average daily base flow is 70 gpcd or less or the grant applicant has an effective existing flow reduction program, the facilities plan must include an evaluation of flow reduction methods such as:

a. public education and information;

b. installation of water meters or retrofitting existing structures with water saving devices;

c. changes in water and sewer rates to encourage conservation and reduction in flow; and

d. changes in local codes to require installation of water saving devices in new construction.

Where cost effective, considering the costs of implementation and the savings realized by water and wastewater flow reduction, the facilities plan should describe implementation steps.

Re: 40 CFR 35.2030(b)(3)(i); EPA publication, "Flow Reduction - Methods, Analysis Procedures, Examples," dated March 1981

5.6 Forecast of Flow and Waste Load

The forecast of future flows and wasteloads in the planning area brings together several topics considered earlier in the review of facilities plans. Future flows and wasteloads result from existing and future residential (including existing onsite systems to be abandoned), commercial, institutional, and industrial flows, all adjusted to reflect the results of the flow reduction program, plus nonexcessive I/I. Flow and wasteload projections must reflect limitations imposed by environmentally sensitive lands, or in some cases constraints resulting from the implementation of air quality plans.

In projecting flows from future residential populations, one of two following methods is generally used:

Method 1 - an estimate is made of the existing average daily base flow (ADBF). The ADBF is computed based on reliable water supply records (ideally individual residential water meters), adjusted for consumption and other losses (generally in the area of 15-25 percent). Alternatively, the ADBF is based on analysis of wastewater flow records over extended dry periods, minus estimated infiltration, industrial flows, or other (e.g. seasonal) flows. The estimated ADBF is divided by the existing sewered residential population to obtain the per capita contribution. This figure is multiplied by the future population and added to the ADBF to obtain the future flow contributed by residential population. Experience has shown that 70 gpcd is representative of residential flow contributions. Per capita flows differing significantly from this figure should be carefully reviewed to insure that they are truly representative of existing flows. Also, increases over time in per capita contributions should not be allowed unless fully justified with supporting documentation.

Method 2 - lacking reasonable water supply or wastewater flow records, future flows may be estimated by multiplying the following per capita contributions by the future population. In areas where the population 10 years in the future is projected to be 5,000 or less, a per capita contribution of 60 to 70 gpcd should be used. For larger areas or where the per capita contribution is greater than 70 gpcd, the per capita contribution should be justified based on comparison with other similar communities in the surrounding area or some other logical reationale.

The figures presented in the description above are not absolute, but are representative of program experience. Where they are exceeded, the project reviewer will carefully review flow projections to insure that they are reasonable and acceptable.

Review Procedures:

The reviewer should focus on the methods used to forecast future wasteloads and flows. The review should incorporate the following considerations:

a. residential future flows are based on an analysis of water supply or wastewater flow records and/or approximates 70 gpcd;

b. residential wastewater strength approximates 200 mg/l BOD_5 and SS or is otherwise justified;

c. known future industrial flows are supported by letters of intent indicating flow volume and waste strength characteristics;

d. unknown future industrial flows do not exceed 5 percent of the design flow or 25 percent of the existing industrial flow unless justified;

e. flow projections for commercial and institutional facilities are reasonable and are supported by documentation where appropriate;

f. future flow projections are made considering limitations imposed by land use plans, other regulatory constraints (e.g., air quality implementation plans), flow reduction programs, and the results of I/I studies; and

g. future flows and wasteloads are in agreement with the applicable WQM plan.

Re: 40 CFR 6.506, 6.507, 35.2030(b)(3)(i) and (ii), 35.2102, 35.2125, 35.2127

5.7 Reserve Capacity

After September 30, 1984, except for previously phased or segmented projects, grant assistance will be limited to the capacity necessary to serve existing needs (including existing needs of residential, commercial, industrial, and other users) on the date of the approval of the Step 3 grant. In reviewing facilities plans, project reviewers must insure that this limitation on grant funding is understood by the grant applicant and reflected in the financial analysis of the project. Because reserve capacity is based on existing needs at the time of grant approval, and because several years may elapse between the completion of a facilities plan and the award of a grant, the subject of reserve capacity is addressed in Section VI.D.10 for phased and segmented projects and Section VI.D.18 for other projects. The project reviewer should evaluate the facilities plan to determine if the estimated date of grant award and the corresponding projected existing needs are reasonable.

Re: 40 CFR 35.2123

5.8 Future Environment Without the Project

EPA regulations implementing NEPA require that the facilities plan describe the relevant future environmental conditions without the project. This description is used to evaluate the "no action" alternative (i.e., using the descriptive items discussed in Section 4.1 above, the grant applicant describes the future environment in the project planning area assuming that the project is not constructed). The description may help to demonstrate the need for the project by indicating conditions which are unacceptable (e.g., continued water pollution or public health hazards), or may provide the basis for concluding that the project is not warranted.

Re: 40 CFR 6.507(c)(2)

6. Development of Alternatives

The primary objective of facilities planning is to establish the need for the project, and through a systematic evaluation of alternatives, demonstrate that the selected alternative is cost effective. Alternatives range from no action to the construction of a complete wastewater treatment system. Within the range of alternatives, many options are available, including rehabilitation of existing systems, sewer alignments, wastewater treatment processes, design life, and staging of construction. The grant applicant must evaluate various alternatives, identify those that are most feasible, and after detailed evaluation of the principal alternatives, select the proposed project.

EPA regulations identify specific alternatives that must be evaluated, as well as other more general alternatives that are considered basic in the wastewater treatment field. Where alternatives are considered and rejected, the reasons for rejection must be described, and must be based on sound reasoning. As each alternative is evaluated, the grant applicant is to seek opportunities that provide for:

a. reuse of effluent or sludge;

b. generation of revenue through the sale of effluent, sludge, or other by-products;

c. recovery of or reduction in the use of energy; and

d. open space or recreational facilities.

The following sections describe specific alternatives to be evaluated, as well as other regulatory requirements which must be considered during facilities planning:

6.1 Flow Reduction

Facilities plans must evaluate the impacts of a flow reduction program on all alternatives considered (see Section 5.5 above).

6.2 Optimum Performance of Existing Facilities

Purpose:

Evaluate the extent to which improved effluent quality is attainable by upgrading the operation and efficiency of existing facilities, as an alternative or supplement to the construction of new facilities.

Discussion:

An investigation of existing facilities may reveal that they can function more efficiently with the addition of new equipment, operational changes, and the addition and training of operating personnel, or it may establish that the facilities are operating at their optimum efficiency. This evaluation not only includes the performance of existing centralized treatment plants, but also includes an evaluation of onsite disposal systems. Whatever the results of the investigation, optimum operation of existing facilities will determine what additions, expansions, or replacements must be made, including improved design and operation of onsite systems. The investigation will also determine the extent to which existing facilities can be used in the new system. Any improvements expected as a result of future pretreatment by industrial dischargers, elimination of excessive I/I, or reductions in total flow should be considered in evaluating the optimum performance of existing facilities.

Review Procedures:

In evaluating optimum performance of existing facilities, the project reviewer is to insure that the facilities plan considers the following items:

a. the optimum performance level possible with the existing process design;

b. the age and reliability of existing equipment and its remaining useful life;

c. the qualifications, number, and training of operating personnel;

d. additional operating controls and laboratory facilities needed to monitor and improve operations;

e. possible process modifications (e.g., conversion of conventional activated sludge to contact stabilization, the addition of mechanical aeration to waste stabilization ponds, etc.);

f. the impact on performance of implementing a pretreatment program for industrial dischargers;

g. the impact on performance of removing excessive I/I or of other flow reduction programs;

h. the effectiveness and suitability of existing onsite disposal systems, and possible modifications for improving performance through public education and public management.

Re: 40 CFR 35.2030(b)(3)(iii); EPA publication, "Estimate of Effluent Limitations to be Expected from Properly Operated and Maintained Treatment Works"

6.3 Unsewered Areas

Purpose:

Evaluate the use of onsite systems for unsewered portions of communities with a population of 10,000 or less.

Discussion:

This specific requirement for the evaluation of onsite systems, while mandatory for communities with a population of 10,000 or less, may also be applicable to any sparsely populated area within the total planning area. While once considered a poor waste disposal practice, onsite systems offer safe, efficient, and economical waste disposal if properly designed, installed, and operated. One principal reason for the failure of onsite systems is improper O&M by homeowners. A solution to this problem may be O&M by a public body, coupled with a public education program. The terms septage management is frequently used to describe O&M of onsite systems by a public body.

To encourage consideration of septage management, the CWA and its implementing regulations allow a public body to apply for a grant to build privately owned onsite systems which serve one or more principal residences or small commercial establishments. A principal residence requires habitation by a family or household for at least 51 percent of the year. Second houses or recreational residences are not considered a principal residence. Small commercial establishments include private establishments (restaurants, hotels, stores, filling stations, recreational facilities, etc.) and non-profit organizations (churches, schools, hospitals, charitable organizations, etc.) with dry weather wastewater flows less than 25,000 gallons per day.

Other grant restrictions applicable to privately owned individual onsite systems include:

- a demonstration that the total cost and environmental impact of building individual systems is less than that of a conventional waste treatment system, and
- certification that each principal residence and small commercial establishment was constructed before December 27, 1977.

While satisfaction of the above definitions and limitations is required for grant assistance, this should not preclude consideration by the public body of assuming management responsibility for all onsite systems, regardless of grant eligibility. Ideally, a public body would be able to convince businesses and homeowners of the benefits of septage management, and to negotiate public ownership of all onsite systems. In reality, however, the public body may not be able to own all systems, but may be able to operate them.

Rehabilitation of publicly or privately owned onsite systems is considered an alternative technology, and therefore qualifies for increased Federal grant assistance (see Item 6.10 below).

The required comparison between the rehabilitation of onsite systems and the construction of conventional collection sewers may point out possible adverse environmental impacts associated with sewers. While sewers in the developed areas may not cause adverse environmental impacts, the transport of the collected wastes by a trunk or interceptor sewer may subject environmentally sensitive areas to developmental pressures. This condition could prevent the award of grant assistance.

Review Procedures:

For unsewered portions of communities with a population of 10,000 or less, insure that the grant applicant has considered rehabilitation and management of onsite systems. The evalution is to include:

a. identification of the number, type, and location of onsite systems;

b. an analysis of the reasons for onsite system failures;

c. cost estimates for rehabilitation and the development and operation of a septage management program;

d. an analysis of the methods by which all onsite systems could become publicly managed, or a listing of reasons why public management is not feasible; and

e. a cost comparison with a conventional collection and treatment system, and an environmental evaluation of both;

Re: 40 CFR 35.2005(b)(31) and (b)(39), 35.2030(a)(1), 35.2034; 40 CFR Part 35, Subpart I, Appendix A, Paragraphs C and H.2.k; EPA publication 625/1-80-012, "Design Manual - Onsite Wastewater Treatment and Disposal Systems," October 1980

6.4 Conventional Sewers

Purpose:

Demonstrate the need for conventional collection sewers for unsewered areas by evaluating all three methods of providing wastewater treatment services to such areas: conventional sewers, rehabilitation of onsite systems, and small diameter sewers.

Discussion:

Conventional collection sewers (i.e., 8 inch or larger gravity sewers) represent one method of providing waste disposal to developed areas. Other methods include rehabilitation of onsite systems (see Section 6.3 above), or the use of small diameter gravity, pressure, or vacuum sewers carrying partially or fully treated wastewater (see Section 6.5 below). For unsewered communities or portions thereof, the facilities plan is to evaluate all three methods of providing waste collection and disposal.

After September 30, 1984, conventional collection sewers do not qualify for grant assistance unless the Governor of a State elects to use up to 20 percent of the State's allotment to fund such projects (see Section II.E.3). However, where the rehabilitation of onsite systems is considered, their total cost and environmental impact must be compared with a conventional system (see Section 6.3 above).

In evaluating conventional sewers, the grant applicant must demonstrate their need, based on an analysis of failing onsite systems (see Section 2.2 above). Where conventional collection sewers are justified, and are within a category of projects eligible for grant assistance, other grant limitations (e.g., date of residential occupancy and bulk of flow) must be satisfied (see Section VI.D.14). Collection sewers are also subject to the reserve capacity limitations described in Section VI.D.18.

Conventional collection sewers are to be designed in accordance with State design standards regarding minimum pipe size, slope, allowable rates of infiltration, and spacing between manholes.

Review Procedures:

Where conventional collection sewers are proposed as one alternative to serve developed areas, insure that:

a. the need for sewers is justified and documented;

b. other methods of collection and disposal (e.g., onsite system rehabilitation and alternative conveyance systems) are evaluated and compared to conventional sewers with regard to total cost and environmental impacts;

c. the sewers will not encourage the development of environmentally sensitive areas;

d. cost estimates for grant participation reflect the eligibility or ineligibility of sewers as a category, as well as grant limitations concerning date of residential habitation, quantity of existing flow, and reserve capacity (see Sections VI.D.14 and 18); and

e. preliminary designs and the resulting cost estimates reflect State design standards.

Re: 40 CFR 35.2005(b)(10), 35.2015(b)(2), 35.2030(a)(1), 35.2034(b)(1), 35.2116, 35.2123(c); 40 CFR Part 35, Subpart I, Appendix A, Paragraph H.2.k

6.5 Alternative Conveyance Systems

Purpose:

Provide an alternative method of collecting and transporting wastewater.

Discussion:

An alternative conveyance system consists of small diameter gravity, pressure, or vacuum sewers conveying treated or partially treated wastewater. As a general guide, where the population density is less than 6 persons, but at least 1.7 persons per acre (one household per 2 acres), both conventional sewers and alternative conveyance systems should be evaluated. Where the population density is less than 1.7 persons per acre, conventional sewers generally are not cost effective, and only alternative conveyance systems should be evaluated.

One common application for alternative conveyance systems is to collect wastes from existing residential and commercial structures presently served by onsite disposal systems. If the problem with the onsite systems is the failure of the absorption systems, it may be possible to use the septic tanks to remove the settleable solids, and transport the clarified effluent in small sewers. The conveyance system may be small diameter gravity sewers (since settleable solids are removed), pressure sewers (where each septic tank is equipped with a pump), or vacuum sewers with a cluster vacuum station. If the septic tank is retained as part of the system, a septage management program must be established by the grant applicant to provide periodic pump-outs and other routine maintenance. The collected wastes may be transported either to a centralized conventional treatment plant or to a relatively small soil absorption field.

Alternative conveyance systems for small communities are included within the definition of alternative technology, and therefore qualify for increased Federal grant assistance (see Item 6.10 below). Because of their potential cost savings, alternative conveyance systems should be considered as one method of collecting and transporting wastewaters.

Review Procedures:

For projects which include the construction of collection sewers, alternative conveyance systems should be evaluated, particularly for isolated developed areas. The evaluation includes:

a. justification of the need to abandon existing onsite systems (see Section 6.3 above);

b. consideration for using existing septic tanks and conveyance of treated wastewater by small diameter gravity, pressure, or vacuum sewers;

c. comparison of costs and environmental impacts between rehabilitation of existing onsite systems and conventional collection sewers; and

d. consideration of the development of a septage management program.

Re: 40 CFR 35.2005(b)(4) and (b)(18), 35.2030(b)(3), 35.2032(a), 35.2034

6.6 Interceptor Sewers

The location and size of intercepting and collection sewers will influence growth in the planning area. Intercepting sewers must be carefully planned, with consideration given to staging of construction, in order to accommodate future growth. Intercepting sewers should not extend into environmentally sensitive areas, unless absolutely necessary to eliminate existing raw sewage discharges or discharges from existing treatment facilities which are to be abandoned.

A problem arises with sizing intercepting sewers, since the size of the pipe is only a relatively small part of the total cost of construction. Very often a larger interceptor which accommodates full development is more economical than an initial small sewer and a future parallel relief sewer. However, the larger interceptor may increase pressure for future growth at a rate faster than that which is planned, or in advance of other utilities and services. It is therefore important that the grant applicant consider the induced growth impacts when sizing and locating intercepting sewers.

After September 30, 1984, except for previously phased or segmented projects, grant assistance for intercepting sewers is limited to the capacity necessary to serve existing needs (including existing needs of residential, commercial, industrial, and other users) on the date of grant approval. Therefore, where reserve capacity is included in the proposed interceptor, the financial analysis section of the facilities plan must reflect the increased local share due to the limitations on reserve capacity. Refer to Sections VI.D.10 and VI.D.18 for a discussion of reserve capacity and a methodology for proportioning costs.

For projects which include the construction of intercepting sewers, insure that:

a. the alignment will not induce growth in environmentally sensitive areas;

b. the size of the sewer reflects an acceptable tradeoff between the initial cost of construction to accommodate full development, and the cost of staged construction to limit potential induced growth; and

c. the financial analysis reflects grant assistance to serve only existing needs on the date of grant award.

Re: 40 CFR 35.2030(b)(3), 35.2123; 45 CFR Part 35, Subpart I, Appendix A, Paragraph H.2.k

6.7 Regionalization

Purpose:

Evaluate regionalization of wastewater treatment services early in the facilities planning process, as one alternative for solving the water pollution problems.

Discussion:

Regionalization may have been addressed in the applicable WQM plan (see Section II.C.3). Where it has been addressed in the WQM plan, the facilities plan must be consistent with its recommendations.

If a WQM plan has not been prepared or updated for the planning area, the grant applicant should evaluate regionalization. Regionalization may involve various arrangements for construction and operation of the necessary facilities. For example, several jurisdictions may form a regional authority to construct and operate one or more centralized treatment facilities, as well as all interceptor and collector sewers. Another approach to regionalization has one community acting as the lead agency for construction and operation of the centralized treatment facilities and the interceptors serving each jurisdiction, while each jurisdiction maintains responsibility for its own collection system.

Regionalization may, but need not, involve construction of physically interconnected facilities. For example, individual jurisdictions may be responsible for construction of local facilities, including any onsite systems, while the regional authority may construct and operate other service facilities, such as sludge treatment and disposal facilities.

Regionalization offers several advantages over smaller separate facilities, including economies of scale in construction and purchasing, ability to afford and attract more experienced operators, better treatment performance, and fewer treatment sites and discharge points. Disadvantages may include longer design and construction periods, potential for unplanned induced growth and its resultant adverse environmental impacts, depleted stream flow, and the need for intermunicipal service agreements.

Review Procedures:

Regionalization, while not explicitly identified in the regulations as a required alternative for evaluation, should be considered in the facilities plan. Where regionalization is considered, insure that:

a. the regionalization alternative is consistant with the recommendations of the applicable WQM plan;

b. the alternative considers the cost savings realized through economics of scale and more efficient operation;

c. the disadvantages of potential adverse environmental impacts due to induced growth have been evaluated and found acceptable; and

d. the grant applicant recognizes the need to execute intermunicipal service agreements before award of grant assistance (see Section V.H).

Re: 40 CFR 35.2030(b)(3) and (b)(6), 35.2102, 35.2107

6.8 Conventional Treatment

Conventional treatment as used in this context refers to the treatment of wastewater at a centralized treatment plant by means of biological or physical/chemical unit processes, followed by direct point source discharge to surface waters. The key words in defining conventional treatment are underlined in this definition. Conventional treatment is distinguished from innovative or alternative (I/A) technologies, which are described in later sections.

Conventional treatment processes and techniques are primarily used to provide secondary treatment, ranging from waste stabilization ponds to fixed media (e.g., trickling filters) or suspended growth (e.g., activated sludge and its variations) processes. Conventional treatment may also be used to provide the first stage of treatment where advanced treatment processes are required.

Where the receiving body of water is classified as effluent limited and therefore only secondary treatment is required (see Section 3.1 above), the facilities plan should evaluate several conventional treatment processes appropriate to the size and location of the community and the character and volume of the waste. For sewered communities with a population of 10,000 or less, the regulations require that the facilities plan give consideration to low cost technologies such as facultative ponds, trickling filters, oxidation ditches, or overland flow. Overland flow is alternative technology, and is discussed in Item 6.9 below. Larger communities may consider the same processes, as well as other more sophisticated treatment alternatives (e.g., activated sludge and its variations). In evaluating conventional processes and preparing preliminary cost estimates, the grant applicant should use State design standards for the sizing of various unit processes.

In evaluating treatment alternatives, the facilities plan must consider one or more conventional treatment processes. The project reviewer is to insure that:

a. appropriate effluent limitations for the receiving stream have been used (see Item 3 above);

b. the conventional treatment process evaluated is capable of providing secondary or equivalent treatment (see Item 3 above);

c. sewered communities with populations of 10,000 or less have considered low cost treatment technologies such as facultative ponds, trickling filters, oxidation ditches, and overland flow; and

d. the conventional treatment process is appropriate to the size and location of the community and the character and quantity of the wastewater.

Re: 40 CFR 35.2005(b)(7) and (b)(14), 35.2030(b)(2) and (b)(3)

6.9 Innovative and Alternative Technologies

Facilities planning initiated after September 30, 1984 must include evaluation of I/A treatment processes. I/A technologies provide inherent incentives, since they offer an opportunity to conserve energy or resources, and to reduce costs. To encourage serious consideration of I/A technologies, the CWA provides additional incentives which include:

a. 20 percent increased grant assistance, not to exceed a total Federal share of 85 percent, with funds reserved from the State's annual allotment to be used exclusively for the increase in grant assistance (see Section II.E.4.c);

b. a separate grant for field testing I/A projects (see Section VI.I);

c. potential higher ranking, at the State's option, on the State's project priority list (see Section II.E.3);

d. 15 percent cost preference for I/A projects when comparing the total present worth costs to the cost of conventional treatment processes (see Section 7.1.g below); and

e. 100 percent modification or replacement (M/R) grant for I/A projects which fail within two years after the initiation of operation (see Section VI.J).

In reviewing I/A technologies evaluated by the grant applicant in the facilities plan, the project reviewer is to insure that the grant applicant has given proper credit to the I/A incentives in comparing various wastewater alternatives. The project reviewer may also wish to read EPA publication 430/9-78-009 (formerly MCD-53), "Innovative and Alternative Technology Assessment Manual," dated February 1980. While this publication does not reflect current grant regulations, the discussions will provide the project reviewer with a better technical understanding of the subject.

In addition each EPA Regional Office and most State agencies have designated one person as the I/A coordinator. This person will provide assistance in reviewing the I/A sections of a facilities plan, and will provide liason when contacting the Small Alternative Wastewater Technology Clearinghouse at West Virginia University, or the technical support group at EPA's Municipal Environmental Research Laboratory in Cincinnati, Ohio.

Re· 40 CFR 35.2030(b)(3), 35.2032, 35.2040(e), 35.2152(b)

6.10 Alternative Technologies

Alternative technologies are defined in the regulations as "proven wastewater treatment processes and techniques which provide for the reclaiming and reuse of water, productively recycle wastewater constituents, or otherwise eliminate the discharge of pollutants, or recover energy." The regulations further define alternative technology as specific forms of treatment or unit processes as follows:

a. Effluent Treatment

- i. land application (rapid infiltration, slow rate irrigation, and overland flow);
- ii. aquifer recharge·
- iii. aquaculture;
- iv. direct reuse (nonpotable);
- v. horticulture;
- vi. revegetation of disturbed lands;
- vii. containment ponds: and
- viii. preapplication treatment and storage of treated effluent prior to land treatment.

b. Sludge

   i. land application, and

   ii. composting and drying prior to land application.

c. Energy Recovery

   i. self-sustaining incineration, and

   ii. anaerobic digestion with greater than 90 percent methane recovery and use.

d. Small Alternative Wastewater Systems

   i. onsite individual or cluster systems,

   ii. septage treatment, and

   iii. alternative collection and conveyance systems.

Two alternative technologies are discussed above (onsite systems in Item 6.3, and alternative conveyance systems in Item 6.5), and two others (land treatment in Item 6.11 and sludge disposal in Item 6.13) are discussed below.

As part of facilities planning, the project reviewer is to insure that the grant applicant has considered one or more alternative technologies for wastewater collection and treatment. In reviewing the discussions of alternative technologies, the following items are to be considered:

- the proposed process is proven and is within the definition of an alternative technology;

- expected treatment results are within normal ranges for the process selected, and will meet the criteria under BPWTT (see Item 3 above);

- loading rates and other design criteria are based on State design standards, and are within the normal ranges recommended in EPA publications for the process under consideration; and

- where applicable, the I/A cost preference has been properly applied to the project (see Item 7.1.g below).

Re: 40 CFR 35.2005(b)(4), (b)(5), (b)(18), (b)(31), (b)(39) and (b)(40), 35.2030(b)(3), 35.2032, 35.2034, 35.2152(b); 40 CFR Part 35, Subpart I, Appendix A, Paragraphs C and D

6.11 Land Application Systems

Land application of wastewater effluent is encouraged by both the CWA and EPA because of potential cost and energy savings and the recycling and reclaiming of resources. Land application of wastewater effluent is defined as an alternative technology, and therefore qualifies for the incentives described in Item 6.9 above. Where land is used as an integral part of the treatment process, land costs (including a reasonable buffer zone and land acquired for storage of wastewater prior to land application) are allowable for grant participation.

Land application of wastewater effluent is generally grouped into three broad categories:

- slow rate irrigation or percolation,
- rapid infiltration, and
- overland flow.

Because of the significant advantages of land application, EPA has conducted considerable research on the subject, and has published many technical reports and manuals, including EPA publication 625/1-81-013, "Process Design Manual, Land Treatment of Municipal Wastewater", October 1981. This manual describes a two phase approach to the evaluation of land application systems. The first phase focuses on the availability of suitable sites and preliminary cost estimates to determine if land application is competitive with other treatment processes. The second phase is an in-depth evaluation of sites and refinement of site specific design factors.

Grant applicants should give serious consideration to land application systems as one alternative for wastewater treatment. Where land application has been evaluated, the project reviewer is to insure that the following key factors have been adequately addressed in accordance with EPA's process design manual:

a. Site Selection

The plan should identify suitable sites and describe reasons for rejecting other sites. Categorical elimination of land treatment because of a lack of suitable sites is generally unacceptable, unless well documented.

b. Loading Rates and Land Area

Preliminary design values which conflict with those in EPA's process design manual should be justified by adequate supporting data.

c. Estimated Costs

Preliminary costs for land treatment should be comparable with those referenced in the literature. Significant differences in land costs should be well documented.

d. Preapplication Treatment

The need for preapplication treatment more stringent than that recommended in EPA's process design manual should be well documented.

e. Environmental Effects

The benefits of land treatment, including resource conservation and higher levels of treatment, should be acknowledged. The plan should discuss how the land application process will satisfy BPWTT requirements (see Item 3 above).

Re: 40 CFR 35.2030(b)(3), 35.2032, 35.2040(e), 35.2152(b)

6.12 Innovative Technologies

Innovative technologies are defined in the regulations as "developed wastewater treatment processes and techniques which have not been fully proven under the circumstances of their contemplated use, and which represent a significant advancement over the state of the art" (underlining added). The regulations provide examples of "significant advancement over the state of the art" which include:

- significant reduction in life cycle costs,
- significant environmental benefits through the reclaiming and reuse of water;
- other methods of eliminating the discharge of pollutants,
- utilization of recycling techniques such as land treatment,
- more efficient use of energy and resources,
- improved or new methods of waste treatment management for combined municipal and industrial systems, and
- confined disposal of pollutants so that they will not migrate to cause water or other environmental pollution.

This definition is similar to the definition of alternative technology in many ways (i.e., it emphasizes cost and energy reduction and resource conservation). However, the difference is that innovative technology is developed but not fully proven, whereas alternative technology is fully proven. Innovative technology is not a specific treatment process nor a group of processes. Rather, it is something new which is not fully proven, but which appears promising based on the results of research and demonstration projects. Innovative technology includes an element of risk and a corresponding benefit which outweighs the risk. It represents a departure from traditional conservative engineering design practices.

Since innovative technology is not a specific process, either conventional concepts of treatment or alternative technology processes are candidates for innovative classification, provided that they satisfy certain conditions. The first condition, and the most difficult to assess, is the element of risk. A proposed innovative project which is not developed and has not been the subject of a research or demonstration project is generally not acceptable, since its risk of failure may be too great. Conventional concepts of treatment are not innovative because they are fully proven, and therefore have no risk and offer no significant advancement over the state of the art. Somewhere between these extremes lies a developed process, not fully proven, offering significant benefits, with a corresponding level of acceptable risk. An analysis of the level of risk for a given technology by the grant applicant and the project reviewer requires professional engineering judgement and collaboration. Project reviewers are encouraged to read Chapter IV of EPA's I/A Assessment Manual (see Item 6.9 above) for a more complete discussion of risk assessment.

Assuming that a proposed innovative project contains an acceptable level of risk, the next condition which must be satisfied is significant advancement over the state of the art. Six criteria have been identified by EPA as representative of significant advancement. Briefly, these criteria are:

- cost reduction (in the range of 15 percent of life cycle costs),
- net primary energy reduction (in the range of 20 percent),
- improved management of toxic substances,
- improved operational reliability,
- improved environmental benefits, and
- improved joint industrial/municipal treatment.

The first two criteria, cost and energy reduction, are quantative, while the other criteria are qualitative and tend to be subjective, and therefore more difficult to review and assess.

Where the cost or energy reduction criterion is used as a basis for claiming innovative classification, the proposed innovative project must be compared with a base standard in order to measure the claimed reduction. The base standard for comparison is the least costly or least energy consuming noninnovative project which would have been selected if no innovative process was considered. Note that the least costly project and the least energy consuming project are not necessarily the same. Additionally, the base standard project also must be acceptable from an environmental standpoint.

In applying the cost reduction criterion, the costs to be compared are the present worth costs (i.e., capital costs plus the present worth costs of operation, maintenance, and replacement (OM&R), over the design life of the project, minus the present worth cost of the project's salvage value.

In applying the energy reduction criterion, the energy to be compared is the net primary energy, which is that which crosses the treatment plant boundary (electricity or fossil fuel). Net primary energy reduction is the difference between the primary energy requirement for the least energy consuming noninnovative alternative, minus the primary energy for the proposed innovative project.

As part of facilities planning, the project reviewer is to insure that the grant applicant has considered the following items when a potential innovative technology is evaluated:

a. the proposed process must be developed but not fully proven;

b. the facilities plan must assess risk, and must establish that the level of risk is acceptable in light of the corresponding benefits;

c. the proposed process must satisfy one of the six innovative criteria described above;

d. where cost or energy reduction is claimed as a basis for innovative classification, the present worth costs or the net primary energy must be compared with the least costly or least energy consuming noninnovative project, respectively;

e. cost reduction must be in the range of 15 percent, and net primary energy reduction in the range of 20 percent;

f. where the risk of a promising technology is relatively high, field testing of the technology, either under a grant or as an allowable preaward cost, must be used to further evaluate the proposed project (see Section VI.I); and

g. where applicable, the I/A cost preference must be properly applied to the project (see Item 7.1.g below).

Re: 40 CFR 35.2005(b)(14), (b)(17), (b)(23), 35.2030(b)(3), 35.2032, 35.2040(e), 35.2118(a)(1), 35.2211, 35.2262

6.13 Sludge Disposal

Purpose:

Dispose of sludge in a cost effective manner, while avoiding adverse impacts on public health and the environment.

Discussion:

Sludge disposal must be evaluated and planned with as much care as the wastewater treatment process. Many sludge treatment and disposal methods are available for evaluation. In general, these methods can be considered in two major categories:

- treatment and volume reduction:
  - incineration,
  - digestion,
  - composting, and
  - surface impoundments;

- ultimate utilization and disposal:
    - landfill,
    - ocean dumping,
    - land spreading, and
    - distribution/marketing.

Some methods of sludge treatment and disposal may not be feasible, by virtue of a project's size or location, (e.g., incineration for a small community or land application for a large metropolitan area). Sludge treatment and disposal may also be subject to other Federal laws such as the Clean Air Act (stack emissions from thermal reduction methods) or the Resource Conservation and Recovery Act. The implementing regulations for the Resource Conservation and Recovery Act (40 CFR Part 261) state that:

- sewage sludge is considered a solid waste in all cases;
- sewage sludge can be subject to control as a hazardous waste;
- municipalities are to determine if their waste is hazardous; and
- if the waste is hazardous, the municipality must obtain a hazardous waste identification number and a permit to treat, store, or dispose of sludge in amounts greater than 100 kilograms per month.

In general, municipal sludge is not hazardous unless industrial dischargers are major contributors to the wastewater treatment system. In that case, the development and implementation of a municipal pretreatment program (see Section E.2 below) may eliminate the discharge of hazardous industrial wastes.

Some of the intermediate sludge treatment processes or ultimate sludge disposal methods are encouraged by the CWA, and are defined as alternative technology (see Item 6.9 below). The discussion below briefly describes these alternative technology unit processes and disposal methods, highlighting some important considerations for review:

a. Composting

Composting stabilizes and disinfects sludge, allowing public distribution under a giveaway or sale program, or application to land as a soil conditioner or as a cover for landfills. The most common composting technique used in the United States uses open air systems (e.g., aerated pile and windrow), although more complex systems (e.g., enclosed mechanical systems) are being introduced. The cost of land used for composting and for the temporary storage of compost residues is allowable for grant participation.

Re: 40 CFR Part 35, Subpart I, Appendix A, Paragraph D.1(a)(3)

b. Landspreading

Properly treated sludge may be used in agriculture, silviculture, turf grass production, revegetation of strip mine land, fertilization of roadside grasses, and many other applications. Landspreading of sludge may be subject to limitations imposed by State or local law. Care must be exercised to preclude adverse health and environmental impacts from a buildup of heavy metals and toxic organics. The cost of land used for landspreading may be allowable for grant participation.

Re: 40 CFR Part 35, Subpart I, Appendix A, Paragraph D.1(a)

c. Distribution and Marketing

Like land spreading, distribution and marketing involves the utilization of the nutrients in sludge and its soil conditioning properties. The sludge must be very stable, disinfected, and have a low moisture content. Where packaged and sold, the sludge must contain appropriate warnings and instructions for its use. Proceeds from sale must be used to offset user charges (see Section V.E).

d. Methane Recovery

Anaerobic digestion employing methane recovery and use is classified as an alternative technology if 90 percent or more of the methane is recovered. The methane may be used for heating, operation of blowers or pumps, or conditioned and sold to nearby users.

e. Self-sustaining Incineration

To be classified as an alternative technology, incineration must realize a net energy gain (i.e., energy produced must be greater than the energy used to dewater and condition the sludge).

Because of the importance and the complex nature of sludge management, EPA has prepared several publications which provide guidance on sludge disposal. Several of the process design manuals are noted in Section V.C.2.p. EPA publication 430/9-80-015 (formerly MCD-72), "A Guide to Regulations and Guidance for the Utilization and Disposal of Municipal Sludge," dated September 1980, may also be helpful during facilities plan review.

Review Procedures:

In reviewing the sludge treatment and disposal sections of the facilities plan, the reviewer is to insure that:

- the grant applicant has given appropriate consideration to sludge treatment and disposal by evaluating several alternatives;
- alternatives evaluated by the grant applicant are appropriate to the size and location of the project;
- serious consideration has been given to sludge treatment and disposal methods which recycle or reclaim sludge (alternative technologies) such as methane recovery, self-sustaining incineration, and land application;
- proposed sludge treatment and disposal methods comply with regulatory requriements of other applicable Federal laws (e.g., Clean Air Act, Resource Conservation and Recovery Act); and
- where applicable, the I/A cost preference has been properly applied to the project (see Item 7.1.g below).

Re: 40 CFR 35.2030(b)(3), 35.2032, 35.2040(e), 35.2152(b)

6.14 Identification of Principal Alternatives

Purpose:

After identifying and evaluating feasible alternatives, systematically screen them to identify principal alternatives capable of meeting Federal, State, and local requirements.

Discussion:

Ideally, the principal alternatives identified by the grant applicant will include one or more conventional concepts of treatment, one alternative technology and one project proposed as innovative. While there is no prescribed methodology or procedure for screening alternatives, one possible method employs monetary evaluation, followed by evaluation of environmental impacts, engineering feasibility, public acceptance, and implementability. The monetary evaluation is best considered first, because it tends to be more quantitive than the other criteria. It is to be noted that neither EPA regulations nor policy guidance suggests that one criterion is more important than others in selecting the proposed project. However, EPA policy does require that the grant applicant give careful consideration to the financial impact of the project upon the community, to insure that the project is affordable (see Item 8.2 below).

In preparing preliminary cost estimates for each alternative, the grant applicant may use published cost estimating techniques found in the literature, or the grant applicant's engineer may generate unique estimates to reflect local conditions. Another cost estimating technique, recommended for use by grant applicants and available to States for comparison purposes, is the Computer Assisted Procedure for Design and Evaluation of Wastewater Treatment Systems (CAPDET). Available from the CAPDET Clearinghouse at Mississippi State University, this computer program can be used to quickly analyze the costs of a large number of alternatives. CAPDET can also evaluate the cost of upgrading and expanding wastewater treatment facilities, and can rank alternative treatment systems by the present worth of capital and OM&R (including energy) costs.

Using the preliminary cost estimates, the grant applicant can apply the remaining criteria, considering factors described in Item 7 below.

The primary difference between screening feasible alternatives and analyzing principal alternatives is the depth and level of detail. Principal alternatives are to undergo a thorough cost effectiveness analysis, although the level of detail in the analysis will depend on the size and complexity of the project.

Review Procedures:

As feasible alternatives are screened for selection of principal alternatives worthy of a more detailed analysis, insure that the grant applicant has:

a. selected a reasonable number of alternatives in light of the unique demographic, topographic, hydrologic, and institutional characteristics of the area;

b. considered conventional concepts of treatment, as well as I/A technologies;

c. used a logical, systematic methodology which considers costs, environmental impacts, engineering feasibility, public involvement, and implementability; and

d. listed sound reasons for rejecting alternatives not considered worthy of further analysis.

Re: 40 CFR 35.2030(a)(1) and (a)(3)

7. Evaluation of Principal Alternatives

Item 6 above discussed the development of alternatives, and described one method for screening them in order to identify a workable number of principal alternatives. Principal alternatives are to be thoroughly evaluated, using the criteria described in Items 7.1 through 7.6 below to compare alternatives and to select the cost effective, environmentally sound project.

7.1 Monetary Evaluation

Monetary evaluation of the principal alternatives is one of the criteria used in selecting the proposed project. The monetary evaluation procedure is the cost effectiveness analysis, and includes the present worth or equivalent annual value of all capital and OM&R costs. It is to be noted that the cost effectiveness analysis does not identify the source of funds, but compares costs uniformly for each alternative over the 20 year planning period. The following cost factors are associated with monetary evaluation:

a. Sunk Costs

Sunk costs are any investments or financial commitments made before or during facilities planning. As sunk costs, they are not to be included in the cost effectiveness analysis, since they have already been committed regardless of the alternative selected. Sunk costs typically include the cost of existing facilities and associated land, outstanding bond indebtedness, and the cost of preparing the facilities plan.

b. Present Worth

Present worth is the sum which, if invested now at a given interest (discount) rate, would provide exactly the funds required to pay all present and future costs. Total project cost, used to compare alternatives, is the sum of the initial capital cost, plus the present worth of OM&R costs, minus the present worth of the salvage value at the end of the 20 year planning period. The discount rate to be used in computing present worth cost is established by the U.S. Water Resources Council for each fiscal year, and is published in the Federal Register (FR).

An alternative method of comparing costs is the equivalent uniform annual cost. This method, used less frequently than present worth, is the expression of a nonuniform series of expenditures as a uniform annual amount. Either method is acceptable in performing a cost effectiveness analysis.

Re: 40 CFR 35.2030(b)(3)

c. Useful Life

The planning period in a cost effectiveness analysis is 20 years. At the end of this period, portions of the project's structures or equipment may have a salvage value. When computing the present worth, the salvage value of structures or equipment is determined by using straight line depreciation. The present worth of the salvage value is then computed using the discount rate (see Item b above). The useful life to be used in a cost effectiveness analysis should fall within the following ranges:

- i. land: permanent;
- ii. wastewater conveyance structures (collection systems, outfalls, interceptors, force mains, tunnels, etc.): 50 years;
- iii. other structures (plant buildings, concrete tanks, basins, lift station structures, etc.): 30 to 50 years;
- iv. process equipment: 15 to 20 years; and
- v. auxiliary equipment: 10 to 15 years.

Where the grant applicant assigns a useful life of less than 20 years (the planning period), the cost effectiveness analysis must show the present worth of the replacement cost at the end of the useful life, and the present worth of the salvage value of the replacement at the end of the 20 year planning period.

d. Escalation

Only energy costs and land value may be escalated in the cost effectiveness analysis. The cost of labor, equipment, and materials is not escalated, since it is assumed that any increase will apply equally to all alternatives. Different alternatives, on the other hand, may use different fuel supplies, or one alternative may use land application and another may not. Escalation of energy costs is to be based on data periodically published by EPA, or on historical data for the area, if justifield. Land prices should be escalated at a uniform rate of 3 percent per year, except for rights of way and easements.

e. Interest During Construction

If interest during construction is significant and may influence the choice of alternatives, it may be included in the cost effectiveness analysis using one of two methods. If expenditures are uniform and the construction period is less than 4 years, interest is one half of the product of the construction period (in years), the total capital expenditures (in dollars), and the discount rate (see Item b above). Otherwise, interest should be calculated on a yearly basis.

f. Staging of Construction

The planning period used in the cost effectiveness analysis is 20 years. However, in some circumstances the design life may be for a lesser period. If the grant applicant proposes a design life of less than 10 years, the project must be carefully scrutinized, since the actual design life (assuming that several years elapse between facilities planning and the initiation of operation) may be considerably shorter. This situation could possibly result in problems, such as the need for future expansion soon after project completion. Nonetheless, staging of construction may be cost effective, or the financial and managerial capability analysis may indicate that staging of construction is preferable. Other conditions which may suggest staging of construction include uncertainties surrounding future population and economic growth, future treatment requirements which are more stringent than secondary, or existing facilities which are to be used for an interim period and later phased out.

While the cost effectiveness analysis does not consider the source of funding, staging of construction may become a more realistic consideration because of the reduced Federal grant share and the limitation on reserve capacity after September 30, 1984, which in many cases will affect the community's ability to afford the project. As a guideline, the staging period should be based on the following:

Q_f/Q_i Ratio	Staging Period (years)
less than 1.3	20
1.3 to 1.8	15
greater than 1.8	10

Where Q_f is the flow at the end of the 20 year planning period and Q_i is the flow at the initiation of plant operation.

g. Cost Preference for Innovative or Alternative Technologies

The cost effectiveness analysis establishes the present worth cost for each alternative. Normally, the lowest cost alternative is selected as the proposed project, assuming that other criteria (e.g., environmental, public acceptance, etc.) are satisfied. The CWA, however, provides that the present worth cost of an I/A technology may be as much as 15 percent greater than the cost of the least costly non-I/A alternative and still be considered equal from a monetary standpoint. Therefore, when an entire project is classified as an I/A technology or where the I/A components represent more than 50 percent of a proposed project, multiply the present worth of the least costly non-I/A alternative by 1.15 to establish an upper ceiling. In order for an I/A project to be cost effective, its present worth cost may not exceed the ceiling figure.

If the present worth cost of the I/A components is 50 percent or less of the proposed I/A project, the 1.15 multiplier is applied to the present worth cost of the replaced components in the least costly non-I/A project. The sum of the figure so obtained, plus the present worth cost of the components common to both alternatives, establishes the upper ceiling as described above.

Care must be exercised in reviewing the grant applicant's use of the I/A cost preference. The project reviewer may wish to discuss this aspect of the cost effectiveness analysis with the State or EPA Regional I/A coordinator.

Re: 40 CFR 35.2032(b)

h. Multiple Purpose Projects

Multiple purpose projects combine water pollution control practices required to meet the enforceable requirements of the CWA with other beneficial purposes (e.g., agricultural, codisposal of refuse and sludge, etc.). They are encouraged by EPA, based on the assumption that achieving several worthwhile purposes at the same time should be less costly than achieving them separately.

Projects which are designed only to meet the enforceable requirements of the CWA are considered single purpose. For example, a project which includes land application as an integral part of the treatment process (an alternative technology) is considered single purpose. If this same project, however, treated the wastewater at the central treatment facility to a level satisfactory for discharge, but the effluent was used for agricultural purposes, the project would be considered multiple purpose.

When projects involve multiple purposes, the allocation of costs to each purpose will be based on the Alternative Justifiable Expenditure (AJE) method as described in 40 CFR Part 35, Subpart I, Appendix A, Paragraph H.l.f. The basic principle behind the AJE method is to allocate the costs of a multiple purpose project among its purposes, so that each purpose shares the cost savings resulting from the multiple purpose approach. In addition, the use of the AJE method solves the difficulty of determining the eligible pollution control cost of a multiple purpose project.

The AJE calculations provide the maximum value that could justifiably be expended on the pollution control function in the multiple purpose project. With the use of this method, however, the grant eligibility for multiple purpose projects will ordinarily be less than the eligibility of a single purpose project with the same pollution control objectives.

If a multiple purpose project is the most cost effective way of satisfying the enforceable requirements of the CWA (e.g., for a CSO), it should be treated as a single purpose project to determine grant eligibility. If the project is cost effective, it is the preferred alternative regardless of what other purposes it serves.

While projects that include recreation could be considered as multiple purpose, they are more appropriately a multiple use project, and are not subject to the AJE method. Recreational components of a project are not eligible and cannot be grant funded. The project, however, would be funded at the level of the most cost effective single purpose alternative.

A multiple purpose project may have I/A water pollution control components. If so, those components are entitled to have the I/A funding percentage applied against the allowable percentage determined by the AJE method calculation. Further, if the multiple purpose project utilizes I/A technology for the water pollution control component, and the use of the 15 percent cost preference makes the multiple purpose project the most cost effective project, then it will be considered a single purpose project (see Item g above).

Revenues generated by multiple purpose projects should not be deducted from OM&R costs in the cost effectiveness comparison with single purpose projects, except for revenue from the sale of excess energy (i.e., energy produced less the energy that could have reasonably been used within the water pollution control components) from a cogeneration facility.

i. User Costs

Another aspect of the cost effectiveness analysis is the computation of the total cost of the project to users. Total cost as used in this context includes capital and financing costs, OM&R costs, and other costs (e.g., sunk costs, hook-up fees, front footage assessments, etc.) The facilities plan is to estimate the annual or monthly costs to residential and industrial users for each alternative, and make this information available to the public as part of the public participation program (see Item 7.4 below). This information will also be used in preparing the financial and management capability analysis (see Item 8.2 below).

Re: 40 CFR 35.2030(b)(3)(vii)

7.2 Engineering Evaluation

An engineering evaluation of the principal alternatives is a second criterion used in the selection of the proposed project. Engineering feasibility of alternatives is considered throughout the entire facilities planning process. However, several specific areas of engineering evaluation are required by the regulations, as described below. Project reviewers are to insure that the following areas have been adequately evaluated and addressed in the facilities plan:

a. Reliability

Each alternative is to be evaluated for its reliability in terms of meeting and consistently maintaining the applicable effluent limitations throughout the project's useful life. Reliability is of particular importance, as reflected in the CWA's requirement that grantees certify after one year of operation that the project is achieving its performance standards (see Section VII.I.2). Several approaches to evaluating and achieving reliability are discussed in Section V.C.2.g.

Re: 40 CFR 35.2005(b)(48)

b. Energy Use

While one of the criteria for classification of a project as innovative is net primary energy reduction, the regulations require that each alternative, whether conventional or I/A, be evaluated for opportunities to recover, or reduce the use of energy. As mentioned in Item 6.13 above, the CAPDET program can be used for this analysis. Where energy reduction is the basis for claiming that a process is innovative, the energy evaluation will generally provide an indepth analysis.

Re: 40 CFR 35.2030(b)(3)(vi)

c. Water Supply

The facilities plan is to evaluate the water supply implications of the project, considering both the impact of future growth upon the water resources and the impact of alternatives in terms of replenishing or depleting water supplies.

Re: 40 CFR 35.2030(b)(7)

d. Revenue Generating Applications

Each principal alternative is to be evaluated for revenue generating application (e.g., the sale of methane gas from anaerobic digestion, the sale of effluent or sludge for agricultural purposes, etc.). Revenue generating applications may possibly be considered multiple purpose projects (see Item 7.1.h above). Revenues generated by the project must be used to reduce OM&R costs (see Section V.E).

Re: 40 CFR 30.200, 35.2030(b)(3)(v)

e. Open Space and Recreation

Each principal alternative is to be evaluated for potential open space or recreational opportunities. In many cases, relevant information may be found in the State Comprehensive Outdoor Recreation Plan, or from the National Park Service, United States Department of the Interior. The project reviewer may wish to have the grant applicant contact the appropriate agencies if the project has potential open space or recreational opportunities. While recreational or open space opportunities associated with a water pollution control facility could denote a multiple purpose project, such facilities are more appropriately a multiple use project (see Item 7.1.h above). Typical recreational or open space opportunities associated with wastewater projects include:

- use of interceptor rights of way for running, hiking, bicycling, or equestrian trails;

- use of project roadway for access to waterways for canoeing, boating, fishing, or swimming;
- provision for access to natural and historic areas for camping, photography, or nature appreciation;
- use of project site for sports such as target shooting, archery, or field sports;
- use of onsite facilities for educational purposes; and
- use of effluent or sludge at onsite locations to improve other recreational areas.

Re: 40 CFR 35.2030(b)(5)

f. Disinfection

The facilities plan should evaluate the need for processes capable of providing disinfection. Disinfection of wastewater prior to discharge has long been practiced, and in many cases is required by State design standards to protect public health. Chlorination of effluent has been and continues to be the most widely used method of disinfection. Because of the potential toxic effects of chlorination on aquatic wildlife, chlorination plus dechlorination or alternate disinfection methods (e.g., azonation, ultraviolet radiation, etc.) should be evaluated in the facilities plan for environmentally sensitive areas. If disinfection requirements are not stated in the NPDES permit, they should be addressed during facilities planning and resolved in accordance with State design requirements.

g. Process Complexity

The treatment process selected for the proposed project should be appropriate to the size of the community and the community's ability to attract and retain qualified operating personnel. For example, a sophisticated activated sludge process requiring complex monitoring and control would usually be inappropriate for a small community.

7.3 Environmental Impacts

An evaluation of environmental impacts is the third criterion used in the analysis of principal alternatives and project selection. The grant applicant is to include within the facilities plan an environmental information document (EID). While the EID need not be a separate document, the environmental information and each alternative's environmental impacts are usually described in a separate chapter of the facilities plan. The EID addresses the environmental issues described in 40 CFR Part 6. These regulations not only describe the NEPA requirements, but also include the requirements of other Federal laws and executive orders (e.g., protection of wetlands and coastal zones).

An adequate environmental evaluation considers the short and long term, direct and indirect, beneficial and adverse impacts of each alternative. Environmental impacts are evaluated during the development of alternatives, the screening of alternatives, and the analysis of principal alternatives.

After completing the review of a facilities plan, the project reviewer is to prepare an environmental assessment of the proposed project. The environmental assessment may result in a FONSI, or a recommendation for the preparation of an environmental impact statement (EIS). The project reviewer may wish to review the detailed environmental considerations which are described in Section D below, to insure that during the evaluation of principal alternatives, the grant applicant has considered all significant environmental issues.

Re: 40 CFR 35.2030(b)(6)

7.4 Public Involvement

Public involvement is the fourth criterion used in the evaluation of principal alternatives. Open discussion and public involvement during facilities planning can help a grant applicant develop a project that reflects the needs and values of the community. Informing the public of the scope of facilities planning at an early stage and involving them during the development and evaluation of alternatives, can help identify issues to be addressed and resolved. EPA is fully committed to public participation in all of its programs, and has published detailed regulations (40 CFR Part 25) which contain specific requirements for public involvement. However, because the elimination of Step 1 and 2 grants effectively prohibit EPA involvement in facilities planning and design, the requirements of 40 CFR Part 25 do not apply to the activities of a potential grant applicant prior to the submission of a grant application. Nevertheless, grant applicants whose projects are being evaluated to determine compliance with NEPA are required to involve the public in the environmental review process, in accordance with 40 CFR Part 25.

An application for grant assistance submitted to EPA must contain a certification from the State that there has been adequate public participation on the part of the grant applicant, based on State or local statutes. Some States, lacking specific State or local statutes, have elected to require compliance by the grant applicants with 40 CFR Part 25. Project reviewers are to be familiar with applicable State or local statutes concerning public participation, insure that the grant applicant has involved the public during the preparation of the facilities plan, and that the facilities plan reflects the results of those requirements. The extent of public involvement is to be described in the facilities plan in sufficient detail to allow the State agency to certify to EPA that there has been adequate public participation.

Re: 40 CFR 6.400, 35.2030(c), 35.2040(b)(2)

7.5 Implementability

Implementability is the fifth criterion used in the evaluation of principal alternatives and project selection. Implementability considers the legal, institutional, financial, and managerial constraints of each alternative, as well as any other aspects of the alternative necessary for design, construction, and successful operation. EPA regulations require that the facilities plan include a concise description of the financial, institutional, and managerial arrangements necessary for successful implementation of the selected project. The project reviewer may wish to review Item 8.2 below to insure that during evaluation of principal alternatives, the grant applicant has considered all significant aspects of project implementation.

Re: 40 CFR 35.2030(a), (b)(3), and (b)(8)(v)

7.6 Plan Selection

After evaluation and comparison of principal alternatives, the grant applicant is to select a project which is the most economical means of meeting the applicable effluent, water quality, and public health requirements over the design life of the facility, while recognizing environmental and other non-monetary considerations.

As in the case of preliminary screening of alternatives, there is no prescribed methodology or procedure for evaluating principal alternatives and selecting the proposed project. Using the criteria described in Items 7.1 through 7.5 above, the grant applicant should be able to identify the cost effective, environmentally sound alternative. Neither EPA regulations nor policy guidance suggest that one criterion is more important than the others in selecting the proposed project. Grant applicants may, therefore, exercise their own value judgements in the weight they assign to each of the criteria. The project reviewer must insure that the reasons for selecting the proposed project and rejecting other principal alternatives are sound, and reflect the requirements of all applicable Federal and State laws. Unless the proposed project or the application of the evaluation criteria violate or misapply Federal and State laws, the project reviewer is not to substitute his judgement for that of the grant applicant.

The project reviewer is to insure that the grant applicant has:

a. evaluated a reasonable number of varied wastewater management techniques;

b. used a logical, systematic methodology which considers costs, environmental impacts, engineering feasibility, public involvement, and implementability; and

c. listed sound reasons for selecting the proposed project and rejecting other principal alternatives.

Re: 40 CFR 35.2030(a)(1)

8. Selected Plan Description

Once the proposed project is selected, the grant applicant is to prepare a concise description, at an appropriate level of detail, of at least the items noted in Items 8.1 and 8.2 below. This description includes both the proposed treatment works and the complete waste treatment system of which it is a part.

Re: 40 CFR 35.2030(b)(1) and (b)(8)

8.1 Relevant Design Parameters

Purpose:

Review relevant design parameters to insure that all major components of the system have been included, cost estimates are reasonable, design parameters comply with State standards, and the proposed process and design are capable of meeting the applicable effluent limitations.

Discussion:

The level of detail describing relevant design parameters varies from project to project, and depends on the project's size and complexity. For example, the description of a standard package treatment plant will not require the same level of detail as a pure oxygen system with phosphate removal and sludge incineration. Representative design parameters to be described include:

- major process features;
- unit processes and sizes;
- a schematic flow diagram;
- sewer lengths and sizes;

- design criteria (e.g., detention times, overflow rates, process loadings, computed removal efficiencies, initial and design flows, etc.);
- sludge management; and
- a schedule for design and construction.

Review Procedures:

Insure that the facilities plan describes relevant design parameters at the appropriate level of detail, in order to demonstrate that:

a. all major components of the system are included;

b. cost estimates are reasonable;

c. design parameters comply with State standards; and

d. the process and design are capable of meeting the applicable effluent limitations.

Re: 40 CFR 35.2030(b)(8)(i)

8.2 Financial and Managerial Capability

Purpose:

Demonstrate the grant applicant's legal, institutional, managerial, and financial capability to insure adequate building and operation of the proposed treatment works.

Discussion:

The requirement stated above is a limitation that must be satisfied before award of grant assistance. The initial demonstration of financial and managerial capability is reflected in the facilities plan, and fulfills the requirements to describe:

- estimated capital construction and OM&R costs (identifying Federal, State, and local shares);

- the manner in which local costs will be financed;

- estimated cost of future expansion and long term needs for reconstruction of facilities following their design life; and

- institutional and managerial arrangements necessary for successful implementation.

EPA has published "Financial and Management Capability for Construction, Operations, and Maintenance of Publicly Owned Wastewater Treatment Systems; Final Policy" (49 FR 6254-6258, February 17, 1984). This final policy ties together many of the financial and managerial responsibilities which must be satisfied by a grant applicant prior to the award of grant assistance. In order to help grant applicants, the policy statement includes sample "Wastewater Facilities Financial Information Sheets." EPA has also distributed its "Financial Capability Summary Foldout - A Simplified Approach," which may be used by grant applicants.

The information sheets contain five basic questions, supplemented by sub-questions, which when answered, will help grant applicants evaluate their ability to proceed with the proposed project. The five basic questions are:

- What Is Proposed In The Facilities Plan?

- What Roles And Responsibilities Will Local Governments Have?

- How Much Will The Facilities Cost At Today's Prices?

- How Will The Facilities Be Financed?

- What Are The Annual Costs Per Household?

The final policy states that the information sheets and their companion "Financial Capability Guidebook" are to be provided to grant applicants to assist in facilities planning. However, in order to account for unique aspects of State laws governing local financing and institutional arrangements, all States are encouraged to develop specific guidance and procedures for grant applicants to use in demonstrating their financial capability. The sample information sheets may be used as the basis for this guidance, and may be modified according to the State's need.

The responses to the five questions must be viewed within the overall context of the grant applicant's financial condition, financial resources, legal constraints, and local public policy. After answering the five questions, the grant applicant must certify that it has the capability to finance and manage the proposed facility. Before completing this certification, the grant applicant is to consider additional elements relating to its overall financial condition (see below). These same factors should be considered by the project reviewer during the review of the facilities plan:

- reasonableness of population projections (see Item 5.3 above) relative to historic trends (if new population growth will be relied upon to help finance the proposed system);
- total current outstanding indebtedness;
- State finance laws and legal debt limits;
- historic trends in the community's revenue sources (e.g., changes in taxable assessed property valuation with respect to population; and
- current bond rating and its historic trend.

At the time of facilities plan review, the demonstration of financial and managerial capability may not be as complete as is necessary prior to grant award. Prior to awarding grant assistance, the grant applicant may need to update the answers to the five basic questions, since several years may have elapsed between facilities planning and grant application. During that same period, other application documents (e.g., intermunicipal service agreements, draft plan of operation, UC system, sewer use ordinance (SUO), etc.) will have been completed, providing further evidence of the applicant's financial and managerial capability (see Section VI.D.4).

Review Procedures:

The facilities plan must demonstrate that the grant applicant has the financial and managerial capability necessary to finance and implement the selected project. The demonstration should include a discussion of the items listed below, either through the information in the "Wastewater Facilities Information Sheets" or separate sections in the facilities plan.

a. Cost Information

i. capital construction and OM&R costs;

ii. source of funds (Federal, State, local); and

iii. manner in which costs will be financed.

b. Cost Impacts on Users

States must develop criteria for screening projects on the basis of their per capita cost, technological appropriateness, or potential financial impact. A combination of several of the following criteria should be used for this purpose:

i. size of community;

ii. extent of sewers to be built in presently unsewered areas;

iii. type of technology proposed;

iv. total capital costs per household;

v. total annual household costs;

vi. total annual cost per household as a percentage of median income;

vii. capital cost of treatment per 1,000 gallons per day of capacity; and

viii. other meaningful indicators.

c. Capital Financing Plan

i. a projection of future wastewater treatment services required during the 10 year period after initial operations;

ii. a projection of the nature, extent, timing, and costs of future expansion and reconstruction of the treatment works; and

iii. the manner in which future expansion and reconstruction will be financed.

d. Project Implementation

i. identification of each participating agency, and its jurisdiction and responsibilities;

ii. demonstration that each agency has the ability and authority under State law (or a reasonable expectation of obtaining such authority) to finance, design, construct, acquire access to, operate, and maintain facilities within its jurisdiction;

iii. identification of referenda or public elections necessary to implement the selected plan;

iv. adopted resolutions of plan acceptance by participating agencies; where opposition exists, a description of steps necessary to reach agreement;

v. proposed intermunicipal service agreements or memoranda of understanding (see Section V.H);

vi. a schedule of specific actions necessary to implement the selected plan, which agrees with the existing NPDES permit and the schedule resulting from the National Municipal Policy (see Sections II.D.1 and II.D.2).

vii. a schedule of actions necessary to implement a pretreatment program, where appropriate (see Section E.2 below);

viii. a schedule for the review of advanced treatment projects (see Section E.1 below); and

ix. a schedule for securing property rights (including easements and rights of way) for projects which include land acquisition.

One aspect of project implementation is to insure that other responsible agencies within the planning area have an opportunity to comment on the proposed project. In accordance with the intergovernmental review requirements (see Section VI.E.6), the grant applicant should be encouraged to submit the completed facilities plan to those agencies, identified in the State process, for review and comment. Adverse comments should be addressed and resolved, with the resolution reflected in the facilities plan.

Re: 40 CFR 35.2030(b)(8), 35.2101, 35.2104(b), 35.2107; 40 CFR Part 29; "Financial and Management Capability for Construction, Operations, and Maintenance of Publicly Owned Wastewater Treatment Systems; Final Policy," 40 FR 6254 through 6258 (February 17, 1984); EPA publication, "Financial Capability Guidebook," March 1984; EPA publication, "Financial Capability Summary Foldout - A Simplified Approach," undated.

D. FACILITIES PLAN APPROVAL

The grant applicant will have established the need for the proposed project, evaluated alternative solutions to the problem, and based on an evaluation of principal alternatives, selected the project which is cost effective and environmentally sound. After completing the review of the facilities plan, the project reviewer must decide to approve or disapprove the proposed project. In making this decision, the project reviewer will have determined if the grant applicant has satisfied all requirements for facilities planning as described in Sections B and C above, and Section E below.

One of the criteria used by the grant applicant to develop and evaluate alternatives is the alternative's environmental impacts. Although the grant applicant may have determined that the environmental impacts associated with the proposed project are acceptable, it is the reviewing agency's responsibility to insure that the project's environmental impacts do not violate Federal and State statutes, and represent an acceptable compromise between associated adverse impacts and the maintenance or enhancement of water quality.

EPA regulations describe the environmental impacts which must be evaluated for wastewater treatment projects. The regulations consolidate environmental considerations from NEPA, as well as other applicable Federal statutes and executive orders. The environmental considerations, as described below, include criteria for decision, definitions, coordination and consultation with other agencies, and procedural requirements. While the environmental considerations are consolidated here because of the reviewing agency's regulatory responsibility for decision after the review of a facilities plan, they are equally applicable in reviewing the grant applicant's development and screening of alternatives (see Section C.6 above) and evaluation of principal alternatives (see Section C.7 above).

1. Criteria for Preparing an Environmental Impact Statement

Even if a project has previously been granted a categorical exclusion (see Section III.D.7), the responsible official at EPA must insure that an EIS will be issued when it is determined that any of the following conditions exist:

a. The treatment works will induce significant changes (either absolute changes or increases in the rate of change) in industrial, commercial, agricultural, or residential land use concentrations or distributions. Factors that should be considered in determining if these changes are significant include, but are not limited to:

   i. vacant land subject to increased development pressure as a result of the treatment works;

   ii. increases in population which may be induced;

   iii. faster rate of change in population or changes in population density;

    - iv. potential for overloading sewage treatment works;
    - v. extent to which landowners may benefit from the areas subject to increased development;
    - vi. nature of land use regulations in the affected area and their potential effects on development; and
    - vii. deleterious changes in the availability of or the demand for energy.

b. The treatment works or collector system will have a significant adverse effect on wetlands, including indirect (i.e., induced) effects, or a major part of the treatment works will be located in wetlands.

c. The treatment works or collector system will significantly affect a habitat on the U.S. Department of the Interior's or the State's threatened or endangered species lists, or the treatment works will be located in such a habitat.

d. The treatment works may directly cause or induce changes that significantly:

    - i. displace population;
    - ii. alter the character of an existing residential area;
    - iii. adversely affect a floodplain; or
    - iv. adversely affect significant amounts of important farm land or agricultural operations on such land.

e. The treatment works will have significant adverse direct or indirect effects on park lands, or other public lands or areas of recognized scenic, recreational, archaeological, or historic value.

f. The treatment works may directly or through induced development have a significant adverse effect upon local ambient air quality, local ambient noise levels, surface or ground water quality or quantity, or on fish, shellfish, wildlife, or their natural habitats.

g. The treated effluent is being discharged into a body of water where the present classification is too lenient, or is being challenged as too lenient to protect the present or recent uses, and the effluent will not be of sufficient quality or quantity to meet the requirements of these uses.

In addition, to these factors, when the proposed treatment works threatens a violation of Federal, State or local law, or requirements imposed for the protection of the environment, the responsible official at EPA is to consider preparing an EIS.

Re: 40 CFR 6.506(a) and (b)

2. Environmental Review Process

The environmental review process applies the criteria described in Item 1 above to determine whether to issue a FONSI or prepare an EIS. The environmental review is conducted by the reviewing agency. Although EPA retains final responsibility for decisions under NEPA, delegated States may prepare an environmental assessment of the proposed project, with recommendations for the issuance of a FONSI or the preparation of an EIS. The following additional information concerning applicable Federal laws and executive orders, and consultation requirements with other agencies will assist project reviewers in applying the criteria for preparing an EIS.

2.1 Historical and Archaeological Sites

The National Historic Preservation Act establishes procedures for the identification, evaluation, and protection of historical and archaeological properties (i.e., cultural resources). It is EPA's policy to avoid affecting such resources, through careful consideration and selection of alternatives during planning and design. EPA must consult with the ACHP when a proposed project will affect a property listed on, or eligible for listing on, the National Register of Historic Places. To comply with the ACHP regulations, EPA has developed guidance that integrates the review of cultural resources with the NEPA review process.

Under a delegation agreement, a State reviewing agency may assume responsibility for cultural resources review activities, including:

- assisting the grant applicant in determining the boundaries of a project planning area and the scope of cultural surveys;
- initiating consultation and providing information to the State Historic Preservation Officer (SHPO) concerning the project's nature and scope; and
- making recommendations and preparing materials for EPA's decision in the cultural resources review process (e.g., NEPA documents, eligibility determinations, submittals to the ACHP, etc.)

As one component of the EID, the grant applicant is responsible for conducting surveys to identify and evaluate cultural resources. The State reviewing agency, using Department of the Interior standards in consultation with the SHPO, will assist grant applicants in identifying qualified professional consultants to conduct the surveys. The grant applicant will provide documentation of survey results, to enable the State and/or EPA to carry out its responsibilities under NEPA and the National Historic Preservation Act.

Surveys consist of activities necessary to locate cultural resources within the planning area, and where necessary, to develop the information required to apply the National Register of Historic Places eligibility criteria and the ACHP's effect criteria. Three levels of survey are described in the guidance, as briefly described below:

a. Documentation and Strategy Development Survey

This initial level survey is designed to document previously identified cultural resources and to identify potential areas of historic and prehistoric habitation. Information concerning the planning area's cultural sensitivity will be used to screen and develop measures for minimizing the project's direct and indirect impacts on cultural resources. At a minimum, the survey includes:

i. a broad-based literature search;

ii. contact with the SHPO, the State archaeologist, historical and archaeological societies, libraries, museums, and universities;

iii. examination of published accounts, models of settlement systems, and geomorphology to predict the relative sensitivity of the area for the discovery of undocumented resources; and

iv. field inspection for familarization with the planning area.

The resulting survey report is to contain an explicit research design for any subsequent site recognition survey, if appropriate.

b. Site Recognition Survey

This level of survey is designed to determine the presence or absence of cultural resources in the project's direct impact area, and to identify those resources requiring further investigation. The survey includes sampling the areas of cultural sensitivity identified in the initial level of survey. Subsurface testing to identify undocumented archaeological sites should be required unless the presence or absence of resources can be determined by direct observation. Survey methods and field activities are to be documented by the applicant and used, in part, to assess the potential impacts of possible project design modifications. If potential impacts cannot be avoided, or if sufficient data on the resource is unavailable, the applicant should conduct a site definition and evaluation survey.

c. Site Definition and Evaluation Survey

This level of survey consists of intensive investigation of specific resources previously identified as partially or entirely existing in the project's direct impact area, or discovered as a result of previous surveys. This survey is undertaken when direct effects cannot be avoided by reasonable project modification, or when information (e.g., extent, depth, significance) is insufficient to assess project alternatives. This survey should, at a minimum, provide data to allow a determination of National Register of Historic Places eligibility. The State reviewing agency or EPA, in consultation with the SHPO, uses the survey data to:

- evaluate methods of avoiding adverse impacts on the resources, or make a "no effect" determination;
- assess the need to request a National Register of Historic Places eligibility determination from the National Park Service, U.S. Department of the Interior;
- assess the effects of the project on the resource;
- develop mitigating measures; and
- assess the need to request ACHP comments.

Should the review result in an adequately documented determination of no effect, the project may proceed as proposed. Should the review result in a determination of no _adverse_ effect, the ACHP is to be provided with the documentation in accordance with its regulations. If the ACHP concurs or does not object within 30 calendar days of the submittal, the project may proceed.

Should the agency review result in a determination of adverse effect, or if the ACHP objects within 30 calendar days to a determination of no adverse effect, the ACHP is to be provided with documentation for the full consultation procedure, according to ACHP regulations, for the preparation of a memorandum of agreement. EPA, with the assistance of the delegated State, will:

- prepare the preliminary case report, formally requesting the comments of the ACHP;
- notify the SHPO of this request; and
- proceed with the consultation process (e.g., on-site visits, public information meetings) as detailed in the ACHP regulations.

During this consultation process, EPA will examine all feasible and prudent alternatives to avoid adverse effects on cultural resources. Examples include the examination of alternative project sites, alternative designs, or no action. Should EPA determine that alternatives to avoid affecting cultural resources are not feasible, measures to minimize the potential effects will be developed in consultation with the SHPO and the ACHP. Generally, the consultation should result in a resolution of any adverse effects. Specific conditions, including the agreed mitigating measures are to be included in the memorandum of agreement signed by EPA, the ACHP and the SHPO. EPA will not approve any action having an adverse effect or no adverse effect until the ACHP comments. Reasonable costs of mitigating measures are eligible for grant participation. EPA may condition any subsequent grant to require mitigating measures to be undertaken by the grantee.

It is the responsibility of the project reviewer to insure that the above procedures are, or have been, carried out. EPA retains the final responsibility for compliance with the ACHP regulations. EPA will publish the review findings, effect determinations, and consultation results as part of the project's environmental assessment.

Re: 36 CFR Parts 63 and 800; 40 CFR 6.301, 30.600(a); 40 CFR Part 35, Subpart I, Appendix A, Paragraph B.1.b.

2.2 Environmentally Sensitive Areas

Whenever a proposed project will affect environmentally sensitive areas, the consultations below should be addressed by the grant applicant in the facilities plan. The reviewing agency has the responsibility for carrying out these procedures, but the grant applicant should be encouraged to do so during preparation of the facilities plan. Whether the project will have an acceptable adverse effect on these resources requires prudent judgement on the part of the project reviewer:

a. Wetlands

Consult with:

i. the Fish and Wildlife Service, U.S. Department of the Interior;

ii. the Soil Conservation Service, U.S. Department of Agriculture; and

iii. the U.S. Army Corps of Engineers (COE).

Document consultation and obtain written comments from each of these agencies where appropriate. Where wetlands may be affected, adverse impacts must be avoided to the extent practicable, and the responsible official must prepare a floodplains/wetlands assessment as part of the environmental assessment or the EIS.

If the proposed project will affect wetlands, impact navigable waters, or cause the discharge of dredge or fill materials, contact the COE to determine whether a permit for the discharge of dredge or fill material will be needed.

Re: 40 CFR 6.302(a); 40 CFR Part 6, Appendix A, "Statement of Procedures on Floodplain Management and Wetlands Protection;" Executive Order 11990, "Protection of Wetlands"

b. Floodplains

Floodplains and flood hazard areas are shown on maps prepared by the U.S. Federal Emergency Management Agency or the COE. Determine if the grant applicant must participate in the flood insurance program; determine if the proposed project satisfies applicable floodplain statutes, regulations, and EPA guidance with regard to location, elevation, or protection of structures. Where floodplains may be affected, adverse impacts associated with direct and indirect development should be avoided to the extent possible, and a floodplains/wetlands assessment must be included in an environmental assessment or EIS.

Re: 40 CFR 6.302(b); 40 CFR Part 6, Appendix A; Executive Order 11988, "Floodplain Management"

c. Important Farm Lands

It is EPA policy to protect environmentally significant farm lands from irreversible conversion to uses which result in its loss as an environmental or essential food production resource. Identify important farm lands by consulting with the Soil Conservation Service, U.S. Department of the Interior. If affected by the proposed project, evaluate direct and indirect impacts to avoid or mitigate them to the extent possible.

Re: 40 CFR 6.302(c); EPA's "Policy to Protect Environmentally Significant Agricultural Lands," 44 FR 64181 (September 8, 1978)

d. Coastal Zones

Consult with:

i. the appropriate State agency, and

ii. the Office of Ocean and Coastal Resource Management, U.S. Department of Commerce

Document consultation and obtain written comments if the proposed project is located in a coastal zone. If the State has an approved coastal zone management plan, a consistency determination must be made by the State. The management plan may also include provisions of the Coastal Barrier Resources Act, which prohibits grant awards to projects which encourage development within the coastal barrier resources system, which is made up of barrier islands and related areas containing few manmade structures.

Re: 15 CFR Part 930; 40 CFR 6.302(d)

e. Wild and Scenic Rivers

Consult with:

i. the appropriate State agency, and

ii. the National Park Service, U.S. Department of the Interior, or, where National forest lands are involved, the Forest Service, U.S. Department of Agriculture

Determine if there are any wild and scenic rivers in the planning area. Consult with and obtain written comments from the appropriate agency. Projects which have a direct and adverse impact are to be avoided. If the impact cannot be avoided, the project may not be approved without notification of the Secretary of the appropriate Federal agency, and of Congress, 60 days in advance of approval.

Re: 40 CFR 6.302(e)

f. Fish and Wildlife

If the project will result in the control or structural modification of any stream or body of water, consult with:

i. the appropriate State agency, and

ii. the Fish and Wildlife Service, U.S. Department of the Interior.

Document consultation and obtain written comments from each of these agencies, where appropriate.

Re: 40 CFR 6.302(f)

g. Threatened or Endangered Species

Consult with:

i. appropriate State agency;

ii. the Fish and Wildlife Service, U.S. Department of the Interior; and

iii. the National Marine Fisheries Service, U.S. Department of Commerce.

Where the proposed action will have an adverse impact on a listed species or its habitat, mitigation measures must be undertaken.

Re: 40 CFR 6.302(g); 50 CFR Parts 23 and 402

2.3 Air Quality

The Clean Air Act requires that all Federally assisted projects conform to the applicable State air quality implementation plan. The responsible official must assess the extent of direct or indirect increases in emissions and the resultant change in air quality for any proposed project which may significantly affect air quality. Where applicable:

a. consult with State or local agencies having responsibility for development and implementation of the applicable implementation plan, to ascertain whether the project plan conforms with the implementation, including compliance with applicable emission limitations or standards.

b. submit the conformity determination to the designated lead State or local agency for concurrence. Lack of response by the lead agency during the 30 day FONSI and 45 day draft EIS review periods will be interpreted as concurrence.

c. EPA must provide in the FONSI or EIS a response to non-concurrence, including the basis on which conformity will be assured. If EPA finds that non-concurrence is unjustified, an explanation must be included in the FONSI or EIS.

Re: 40 CFR 6.303; 40 CFR 30.600(c)

2.4 Drinking Water

The Safe Drinking Water Act prohibits EPA from awarding grant assistance if a proposed project may contaminate a sole source aquifer and result in a significant hazard to public health. Determine if a sole source aquifer is located in the project area, and if so, evaluate the potential impacts (both direct and indirect) of the project on drinking water quality.

Re: 40 CFR 30.600(1); 40 CFR Parts 141 and 149

3. Direct and Indirect Impacts

Environmental impacts are generally classified as direct or indirect.

3.1 Direct Impacts

Direct impacts are caused by construction or operation of the treatment works, and typically include:

a. disruption of traffic, businesses, or other activities during construction;

b. disturbance of sensitive ecosystems, such as wetlands and habitats of endangered or threatened species, during construction;

c. impact on water quality by the effluent discharged from the treatment works;

d. displacement of households, businesses, or services; and

e. destruction of, or a significant adverse effect on, archaeological and historic sites and similar nonrenewable resources.

3.2 Indirect Impacts

Indirect impacts are caused by development made possible by the project, and typically include:

a. changes in the rate, density, location, or type of development;

b. increased air, water, or noise pollution from induced changes in population and land use;

c. increased solid waste production or demand for potable water from induced changes in population and land use; and

d. socioeconomic pressures for the expansion of existing facilities and services (e.g., housing, schools, highways, police, fire, medical, energy) from induced changes in population and land use.

As a facilities plan is reviewed, and as the environmental review process is carried out, the project reviewer is to note both the direct and indirect impacts of the proposed project. Special attention is to be given to indirect impacts, to insure that induced changes will not create other environmental problems. Additionally, many of the criteria requiring the preparation of an EIS are based on the induced or indirect impacts of the proposed project.

Where direct or indirect adverse impacts are unavoidable, the facilities plan or the reviewing agency may suggest methods to mitigate them. These methods may be structural (e.g., changes in facility design, size, and location) or nonstructural (e.g., staging facilities, developing and enforcing land use and environmental protection regulations, etc.).

The project reviewer should record in the project files the mitigation measures resulting from the environmental review process, and use this information during plan and specification review. The requirement for such measures may also be included in a subsequent grant award as a special grant condition.

Re: 40 CFR 6.507(c)(5) through (c)(7)

4. Finding of No Significant Impact

If, after completion of the environmental review process a preliminary determination is made that an EIS will not be required, the EPA will prepare, announce publicly, and distribute a FONSI. EPA will use appropriate means to advise the public and interest groups (e.g., media advertisements, direct mail, etc.) of its preliminary decision not to prepare an EIS, and will allow at least 30 days for public response. At the conclusion of the public notice response period, and after fully considering all comments received, EPA will decide either to finalize the FONSI or to prepare an EIS.

The FONSI is based on the environment assessment, which is a summary of all potentially significant environmental impacts and related factors, and which serves as the EPA's written record of the reasons for not preparing an EIS. The environmental assessment is either incorporated into, or attached to, the FONSI.

The FONSI lists any mitigation measures necessary to eliminate significant adverse environmental effects and make the proposed plan acceptable. Once a FONSI and environmental assessment have been issued for a facilities plan and after the 30 day comment period has elapsed, grant award may proceed (after completion and approval of the design), without preparation of an additional FONSI unless the reviewing agency determines that the project has changed significantly from that described in the approved facilities plan.

For those States where the review of facilities plans has been delegated, the State agency will prepare the preliminary environmental assessment, which then serves as the basis for EPA's decision to issue a FONSI or an EIS. However, the decision whether or not to prepare an EIS rests solely with EPA, since the ultimate decision under NEPA cannot be delegated.

Once a decision is made, the FONSI issued, and the 30 day comment period has elapsed, the reviewing agency is to:

a. notify the grant applicant and the State that the facilities plan has been appproved;

b. identify, in the official notification letter, any special conditions resulting from the environmental review which will be made a part of a subsequent grant; and

c. advise the grant applicant that approval of the facilities plan does not obligate EPA to the award of future grant assistance.

Re: 40 CFR 6.400(d), 6.507, 6.508

5. Environmental Impact Statement

5.1 Notice of Intent

If after completion of the environmental review process, a determination is made to prepare an EIS, EPA will announce publicly and distribute a notice of intent to prepare an EIS. The notice of intent is based on the conclusion from the environmental review that a significant environmental impact may occur as a result of the proposed project. After the notice is published in the Federal Register (FR), EPA will initiate actions to begin the scoping process.

As soon as possible after publication of the notice of intent, EPA will publicly announce and convene a meeting of affected Federal, State, and local agencies, along with the grant applicant and interested parties, to determine the scope of the EIS. At the scoping meeting, in consultation with the other participants, EPA will:

a. determine the scope and significant issues to be analyzed in the EIS;

b. identify those issues which are not significant;

c. determine what information is needed from cooperating agencies;

d. discuss the method for EIS preparation and the public participation strategy;

e. identify consultation requirements based on other environmental laws; and

f. determine the relationship between the EIS and the facilities plan, and any necessary coordinating arrangements between the preparers of both documents.

Re: 40 CFR 6.105(e), 6.400(b), 6.507(f) and (g)

5.2 Preparation

After issuing the notice of intent and completing the scoping process, EPA will prepare the EIS either by direct use of agency staff, by contract with a qualified consultant, or by utilizing the joint EID/EIS process (frequently called piggybacking), in which the grant applicant enters into a contract with a qualified consultant, subject to EPA concurrence, to prepare both documents simultaneously.

EPA regulations (40 CFR Part 6) include detailed procedures to be followed in preparing an EIS. In general, a draft EIS is prepared, during which time an active public participation program is carried out by EPA in accordance with 40 CFR Part 25. After completion, distribution, and public review of the draft, the EIS is finalized by EPA.

The EIS may:

a. conclude that grant assistance is not to be awarded for the proposed project because of significant adverse environmental impacts;

b. recommend changes to the project or mitigation measures; or

c. approve the project as proposed.

Re: 40 CFR 6.105, 6.507(h) and (i)

6. Grant Award Exception

EPA regulations allow the award of grant assistance before facilities plan approval and certification by the State provided that:

a. applicable statutory and regulatory requirements (including 40 CFR Part 6) have been met;

b. facilities planning related to the project has been substantially completed;

c. the project for which grant assistance is awarded will not be significantly affected by the completion of the facilities plan and will be a component part of the complete waste treatment system; and

d. the grant applicant agrees to complete the facilities plan on a schedule the reviewing agency accepts, and such schedule is inserted as a special condition in the grant agreement.

Re: 40 CFR 35.2030(a)(2)

E. SUPPLEMENTAL CONSIDERATIONS

This section discusses three items (advanced treatment (AT), pretreatment, and correction of CSO's) which, when applicable, are an integral part of facilities planning. Because they are not applicable to all projects, they are discussed separately below:

1. Advanced Treatment

Purpose:

Provide grant assistance to projects designed for treatment more stringent than secondary treatment if the responsible official determines that AT is required and will definitely result in significant water quality and public health improvements.

Discussion:

All projects proposing treatment more stringent than secondary treatment will be subject to an intensive review in accordance with EPA's "Policy for Review of Advanced Treatment Projects," published at 49 FR 21462 through 21469 (May 2, 1984). The AT review should be conducted during or at the completion of facilities planning, and prior to the initiation of project design.

EPA has defined the minimum level of effluent quality attainable by secondary treatment in terms of the parameters BOD_5, SS, and pH (see Section C.3 above). For purposes of the AT review policy, except as described on the following page under "secondary treatment processes," an AT project is defined as any project that:

- is designed to meet effluent limitations for BOD_5 or SS which are less than 30 mg/l (30 day average); or

- is designed to meet effluent limitations for the removal of ammonia, nitrogen, phosphorous, or other pollutants; or

- is designed to provide stringent disinfection by means of coagulation and filtration facilities.

Except for certain projects exempted as described below, this policy shall apply to all AT projects prior to award of Step 2+3 or Step 3 grant assistance. In addition to projects meeting the definition for AT above, two other special classes of projects are also subject to this policy:

- projects other than AT projects which, because of blanket AT or blanket zero discharge requirements for nearby waters, include long interceptors or outfalls for discharge to distant receiving waters, and whose total capital cost exceeds by more than $3 million the capital cost of providing secondary treatment with discharge to nearby waters; and

- projects featuring land treatment or other I/A technologies which include reuse or recycling of pollutants that resulted from imposition of AT discharge requirements, and whose incremental present worth cost (i.e., beyond that of providing preliminary treatment prior to land treatment or other I/A process) exceeds $3 million.

Several categories of projects are exempt from the AT review:

- secondary treatment processes:

  - designed to meet State definitions of secondary treatment which are not more stringent than 20 mg/l for BOD_5 and SS and which require only secondary treatment technologies to achieve these levels; or

  - featuring only the addition of commonly used disinfection processes for pathogen inactivation (e.g., chlorination/dechlorination, ozonation, ultraviolet radiation).

- phosphorous removal:

  - where required by international agreement in the Great Lakes Basin or in the Upper Chesapeake Bay; or

    - where incremental AT costs are $3 million or less, and where the total phosphorous effluent limitation is not less than 1 mg/l, EPA may exercise its option to exempt such projects.

- warm weather nitrification:

    - where incremental AT costs are $3 million or less the projects provide only for warm weather (e.g., 20°C or greater) nitrification designed to achieve effluent limitations requiring not more than 90 percent removal of ammonia on streams with designated fishery uses, and effluent flows are greater than stream flows at critical low flows, EPA may exercise its option to exempt such projects.

All AT projects with an incremental AT capital cost over $3 million, unless exempted, must be approved by the EPA Administrator prior to award of grant assistance. All AT projects with an incremental AT capital cost of $3 million or less, unless exempted, must be approved by the EPA Regional Administrator prior to award of grant assistance. The Regional Administrator may delegate his authority to the appropriate States for such determinations. Incremental AT cost is defined as the difference in total capital cost between the cost effective secondary treatment facility and the proposed AT project.

It should be noted that the requirements for AT result from existing NPDES permits or water-quality-based effluent limitations necessary to achieve water quality standards (see Sections II.B.1, II.C.3, and II.D.2). Since all States are required to reevaluate their water quality standards by December 29, 1984, the project reviewer must insure that effluent limitations requiring treatment more stringent than secondary treatment remain applicable to the project.

Review Procedures:

Because of the technical considerations surrounding the review of proposed AT projects, the project reviewer is encouraged to read EPA's AT review policy and AT review handbook, which are referenced below, prior to conducting the review. In general, review procedures should allow the project reviewer to:

a. determine if the proposed project meets the definition of AT or is a special case requiring AT review;

b. determine if the proposed project is subject to exemption from AT review;

c. determine the incremental costs for AT:

   i. if $3 million or less, conduct the AT review in accordance with EPA policy and Regional procedures; or

   ii. if more than $3 million, conduct the AT review in accordance with EPA policy and Regional procedures, and prepare necessary documentation for submission to EPA Headquarters.

Re: 40 CFR 35.2101; EPA's "Policy for Review of Advanced Treatment Projects," 49 FR 21462 through 21469 (May 21, 1984); EPA publication, "Handbook of Advanced Treatment Review Issues," June 1984

2. Industrial Pretreatment

Purpose:

Insure that industrial wastes discharging or proposed for discharge to the treatment works do not interfere with the treatment process or limit selection of the cost effective, environmentally sound project for treatment and sludge disposal.

Discussion:

All owners of POTWs with a total design flow greater than 5 million gallons per day which receive industrial waste pollutants which:

- pass through untreated,

- interfere with the operation of the treatment works, or

- are included in the National Pretreatment Standards

are required to develop a pretreatment program.

The requirements for developing and implementing a municipal pretreatment program are administered through the NPDES permit program for existing facilities. Where new treatment works are proposed in a facilities plan, or where industries subject to pretreatment requirements are to be connected to a treatment works proposed in a facilities plan, the grant applicant should develop a pretreatment program in conjunction with the preparation of the facilities plan.

The requirements for a pretreatment program are not applicable to municipal treatment works with flows of 5 million gallons per day or less unless circumstances (e.g., industrial discharges which upset the treatment process, cause violation of NPDES permit, or contaminate sludge) require the regulatory agency to impose them. Two sets of National Pretreatment Standards are established under the CWA. The first standard, entitled "prohibited dischargers," identifies the characteristics of waste which may not be introduced to a POTW. These characteristics include pollutants which:

- create a fire or explosion hazard;
- cause corrosive structural damage;
- have a pH lower than 5.0:
- cause obstructions to the flow in sewers or other interference with operations;
- because of volume or strength (e.g., BOD, SS, etc.) cause interference with operations;
- because heat, inhibit biological activity, resulting in interference with operations; or
- contain heat in such quantities that the influent exceeds 40°C (104°F).

The second set of National Pretreatment Standards, entitled "categorical standards," specify the quantity and concentration of pollutants or pollutant properties which may be introduced or discharged into a POTW, from a source in a given industrial category or subcategory (21 categories were identified for initial development of the standards). Categorical standards also contain numerical pollutant discharge limitations for each industrial subcategory, based on the best available technology economically achievable.

Where applicable, the grant applicant must identify industrial contributors, determine the nature, quantity, and specific characteristics of the industrial waste, determine if the wastes are subject to National Pretreatment Standards, establish enforcement authority and monitoring capability, and accomplish whatever else is necessary to implement a pretreatment program. The development and implementation of a pretreatment program by the grant applicant is related to many other items in the grants process, such as capacity requirements, including letters of intent from industries (see Section C.5.4 above), eligible project costs (see Section IX.F), UC system (see Section V.E), SUO (see Section V.F), and plan of operation, including laboratory facilities to analyze wastes (see Section V.G). During facilities planning, the grant applicant must insure that industrial wastes discharging or proposed for discharge to the treatment works do not interfere with the treatment process or limit selection of the cost effective, environmentally sound project for treatment and sludge disposal.

A complete pretreatment program will include the following items:

- an industrial survey, identifying system users by industrial category, location, and character and volume of discharge;
- identification of prohibited discharges and those industrial categories subject to categorical standards;
- negotiation and agreement with affected industries for pretreatment prior to discharge into the treatment works;
- an evaluation of the legal authority of the grant applicant to enforce pretreatment standards, including the development of new legislation (ordinances, codes, etc.) where required;
- an evaluation of the revenue sources and financial arrangements necessary to implement the pretreatment program;

- a determination of the technical information needed to support development of an industrial waste enforcement program which will insure compliance with the NPDES permit and to incorporate new categorical standards as they are promulgated by EPA;

- design of an enforcement monitoring program;

- a determination of pollutant removals in existing facilities (a grant applicant may apply, on behalf of industrial users, for removal credits for existing treatment facilities; approval of removal credits is made only after a technical review in accordance with 40 CFR 403.7(b); costs associated with preparing documents solely for requesting removal credits are unallowable for grant participation; and

- a determination of monitoring equipment (both sample collection equipment and laboratory needs) required at the POTW.

Because of the complex nature of the technical issues and the broad range of regulatory requirements (Federal, State, and local), the project reviewer may wish to consult with the pretreatment specialist within the reviewing agency.

Review Procedures:

Where a facilities plan indicates that industrial contributors are or will be connected to the treatment works, and where the total design flow is greater than 5 million gallons per day, insure that:

a. industrial dischargers have not limited the grant applicant's alternatives for treatment and sludge disposal (i.e., the proposed project would have been selected in the absence of industrial discharges);

b. the grant applicant has carried out those elements of a pretreatment program (see discussion above) necessary for identifying the cost effective, environmentally sound project as proposed in the facilities plan; and

c. where appropriate, acceptable cost estimates and implementation steps related to capacity, the UC systems, the SUO, and the plan of operation are included in the facilities plan.

Re: 40 CFR Part 35, Subpart I, Appendix A, Paragraph F;
40 CFR Part 403

3. Combined Sewer Overflow Projects

Grant requirements, including date and funding limitations, for CSO projects are discussed in Section VI.G. However, regardless of whether a project is solely for CSO correction, or CSO's are a part of the complete treatment system being evaluated in a facilities plan, the CSO projects are to satisfy the facilities planning requirements. This means that the project need must be established, alternatives identified and evaluated (including economic and environmental impacts), and a project selected which is both cost effective and environmentally sound. The project reviewer must combine the requirements of Section VI.G and Sections B through D above when reviewing CSO projects.

CHAPTER V

DESIGN

A. INTRODUCTION

B. PREDESIGN CONFERENCE

C. REVIEW OF PLANS AND SPECIFICATIONS

D. VALUE ENGINEERING

E. USER CHARGE SYSTEM

F. SEWER USE ORDINANCE

G. PLAN OF OPERATION

H. INTERMUNICIPAL SERVICE AGREEMENT

I. INDUSTRIAL WASTES AND FEDERAL FACILITIES

J. DESIGN ACCEPTANCE

A. INTRODUCTION

This chapter discusses the review of activities which take place during the design of the project. It begins with the predesign conference, followed by a discussion of the administrative and technical review of the plans and specifications. It also discusses other activities which are usually accomplished concurrently with design, and which are prerequisites to grant award.

Section B, Predesign Conference, describes suggested issues which may be discussed with the grant applicant and the design engineer.

Section C, Review of Plans and Specifications, describes administrative items to be included in the specifications, based primarily on construction procurement requirements, and technical requirements and guidance which EPA feels represent sound engineering design principles.

Section D, Value Engineering, describes those conditions under which a separate value engineering (VE) study is required, the methodology to be used in conducting the study, and provisions for implementing the VE recommendations.

Section E, User Charge System, describes the requirements for a user charge (UC) system, which must charge each user of the wastewater treatment system a proportional share of the cost of providing treatment services.

Section F, Sewer User Ordinance, describes the requirements for a sewer use ordinance (SUO), and its use in implementing EPA requirements and other municipal requirements for effective operation of the project.

Section G, Plan of Operation, describes the requirements for an effective plan of operation, including staffing, training, budgeting, and the preparation of an operation and maintenance (O&M) manual.

Section H, Intermunicipal Service Agreement, describes the requirements for an intermunicipal service agreement and its importance in providing proper financial and institutional support for the project.

Section I, Industrial Wastes and Federal Facilities, describes limitations on the eligibility of capacity to treat industrial wastes and wastes from Federal facilities.

Section J, Design Acceptance, describes the effect of design acceptance by the reviewing agency, and discusses other issues which must be resolved prior to application submission.

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B. PREDESIGN CONFERENCE

Purpose:

Meet with the grant applicant and the grant applicant's design team to review administrative and technical requirements for design, as well as other activities that are usually accomplished concurrently with design.

Discussion:

A predesign conference is not required by EPA regulations, but is encouraged for all projects whenever possible. A predesign conference affords an opportunity for the reviewing agency to meet with the grant applicant and the grant applicant's design team to review the many activities which take place during project design. Practically all reviewing agencies have developed specific procedures for arranging and conducting a predesign conference, frequently including a checklist of items for discussion. The reviewer should use these procedures, modified as necessary for the specific project. Particular emphasis should be placed on the significant changes in the construction grants program which became effective on October 1, 1984.

Procedures:

As soon as possible after completion and approval of a facilities plan and prior to the initiation of design, the project reviewer should arrange a predesign conference with the grant applicant and the design team. Major program requirements to be discussed include:

1. Technical design criteria, which must meet State design standards and the EPA requirements and guidance discussed in Section C.2 below. If the reviewing agency requires the submission of an engineering design report, the format and timing for submission of the report by the grantee should be discussed. Design parameters may include items such as loadings, system head curves, detention times, peaking factors, and the capacity of various components.

2. Contract documents, which must comply with State and EPA requirements (primarily 40 CFR Part 33), as discussed in Section C.1 below. These requirements include competitive selection, non-restrictive specifications, bonding, insurance, wage rates, labor standards, and required subagreement clauses.

3. Recent changes in the construction grants program, such as:

    a. reduced Federal grant share (see Section VI.L.2);

    b. allowances (see Section VI.L.1) and advances of allowance (see Section III.E);

    c. revised definition of secondary treatment or its equivalent (see Section IV.C.3.1);

    d. infiltration/inflow (I/I) limitation (see Section IV.C.4.3);

    e. limitations on the eligibility of reserve capacity (see Section VI.D.18);

    f. project performance certification, including sewer rehabilitation, after one year of operation (see Section VII.I.2.a);

    g. limited eligibility of collection sewers, major sewer system rehabilitation, and combined sewer overflow (CSO) projects (see Section II.E.3).

d. Compliance with facilities plan and FONSI or EIS conditions (see Sections IV.C.8 and IV.D).

e. UC system (see Section E below) and SUO (see Section F below).

f. Requirements for VE studies (see Section D below).

g. Preliminary and final plan of operation (see Section G below).

h. Acquisition of land, rights of way, and easements (see Section VI.H).

i. Intermunicipal service agreements (see Section H below).

j. Service agreements with major industrial users (see Section I below).

k. Additional I/I investigations which may be required (see Section VI.D.16).

l. Pretreatment (see Sections IV.E.2 and VI.E.4).

m. Design features associated with industrial flows (see Section I below).

n. Timing and arrangements for funding the municipal share of project costs (see Section VI.D.4).

C. REVIEW OF PLANS AND SPECIFICATIONS

Purpose:

Insure that the proposed project conforms with the selected alternative in the facilities plan, satisfies State and EPA design criteria and administrative requirements, is biddable and constructible, and will satisfy discharge requirements in accordance with the project's National Pollutant Discharge Elimination (NPDES) or State Pollutant Discharge Elimination System (SPDES) permit.

Discussion:

Contract documents, primarily the plans and specifications, are prepared by an engineer licensed in the State in which the project is to be constructed. In designing the project, the engineer must comply with State design standards, and the enforceable requirements of the Clean Water Act (CWA). The engineer is responsible for employing sound engineering principles, as represented by his seal and signature on the plans and specifications.

The reviewer is responsible for insuring that the project conforms with the selected alternative described in the facilities plan, includes special considerations which were noted in the facilities plan (e.g., mitigation of adverse environmental impacts), and in general meets minimum technical and administrative State and EPA requirements. Ideally, periodic progress reviews should be conducted with the grant applicant and the design team to insure compliance with technical and administrative requirements.

In performing the review of the plans and specifications, the reviewer is to note and call to the attention of the design team, through the grant applicant, any apparant discrepancies with State or EPA requirements (e.g., oversized or unnecessary units, "gold plating," etc.). However, the review and acceptance of the plans and specifications by the State or EPA project reviewer does not relieve the grantee or the design engineer of his legal responsibilities for the overall integrity of the project (see Section J.1.c below).

In addition to reviewing the contract documents for technical and administrative adequacy, the reviewer should note and resolve any possible conflicts that could later result in contractor change orders or claims. The most common conditions resulting in change orders include differing site conditions, errors and omissions in the contract documents, State and Federal government regulatory changes, design changes, overruns and underruns in quantities, and factors affecting the time of completion of the project. Bearing these conditions in mind, the reviewer should carefully review the plans and specifications to insure that the information and details contained therein will help to minimize future change orders and claims.

Review Procedures:

1. Administrative Review

The procurement of construction contractors must comply with at least the minimum EPA requirements as set forth in 40 CFR Part 33. These minimum EPA requirements may be supplemented by additional State or local requirements provided they do not conflict with EPA requirements nor in any other way unduly restrict or eliminate competition (see Section I.D.6). Practices considered to be unduly restrictive and therefore not allowed include:

- noncompetitive practices between firms;
- organizational conflicts of interest;
- State and local laws, ordinances, regulations, or procedures which give local or in-State bidders preference over other bidders;
- unnecessary qualification requirements, such as excessive experience or bonding in lieu of experience;
- placing other unreasonable requirements on firms in order for them to qualify to do business.

Re: 40 CFR 33.230

a. Formal Advertising

Except for very unusual circumstances, the formal advertising procurement method must be employed. Formal advertising procurement essentially consist of:

i. formal advertising or solicitation of bids through a public notice,

ii. public receipt and opening of bids, and

iii. award of the contract to the lowest responsive, responsible bidder.

Items b through f below briefly describe EPA's administrative requirements for bidding documents and procedures. See Sections VII.B and VII.D for a more complete discussion.

Re: 40 CFR 33.405, 33.430

b. Public Notice

The public notice soliciting bids must state when and how bidding documents, including plans and specifications, can be obtained or examined, and the time, date, and location for receipt of bids. The public notice must provide adequate time (normally 30 days) between the date of public notice and the date for receipt of bids.

The advertisement or invitation for bids is placed in newspapers and trade journals, and in the case of large projects, in publications with nationwide distribution.

Re: 40 CFR 33.410, 33.415;
40 CFR Part 33, Appendix A

c. Prequalification of Contractors and Products

If allowed by State law, grant applicants may use a prequalified list of contractors and/or major items of equipment before receipt of bids provided the following conditions are met:

i. prequalified list is updated at least every six months;

ii. requests for inclusion on the list made 30 days before bid opening are considered and acted upon;

iii. adequate public notice of the prequalification procedure is provided; and

iv. the procedure does not unnecessarily restrict competition.

Re: 40 CFR 33.230(c) and (d)

d. Addenda

Prior to the receipt of bids, it is sometimes necessary for the grantee to issue addenda to the plans or specifications. Such addenda may be required to update a wage rate determination (see Item q below) or to clarify the plans or specifications. The proposal form or other bid submission documents should include a statement to be completed by bidders acknowledging receipt of each addendum (see Section VII.D.1.c).

e. Bid Proposal

The bid proposal is a form which briefly describes the required items of equipment, materials, and work to be performed, and provides blank spaces to be completed by the bidder, indicating the amount being bid for each bid item. The amount will be a fixed price (lump sum), or in the case of estimated quantities, unit prices. The price is generally expressed in words and numbers, with a separate price for each major item or system and a total for the entire contract. The proposal is to be signed by an authorized official of the bidding firm. The individual items on the proposal form should set forth, in clear and understandable terms, the limits of work for each item.

f. Basis for Award

The contract documents must clearly describe the method of bidding, the method of evaluating bid prices, and the method of awarding the contract. A contract will be awarded to the lowest responsive, responsible bidder. The selection of the successful bidder is to be made principally on the basis of price.

A responsible contractor is one that has:

i. financial resources, technical qualifications, experience, organization, and facilities adequate to complete the project within the required schedule, or a demonstrated ability to obtain these;

ii. a satisfactory performance record;

iii. adequate accounting and auditing procedures; and

iv. demonstrated compliance or willingness to comply with the civil rights, equal employment opportunity, labor law, and other requirements of 40 CFR Part 30.

A contract may not be awarded to a contractor, nor a subcontract to a subcontractor, who has been suspended, debarred, or voluntarily excluded under 40 CFR Part 32, nor may any portion of the work be performed at any facility listed on EPA's List of Violating Facilities.

The contract documents should also include a description of conditions under which all bids may be rejected. Such conditions must be based on sound business reasons which are in the best interests of the construction grants program.

Re: 40 CFR Part 15; 40 CFR 33.220, 33.250, 33.405, 33.420, 33.430

g. Sole Source Procurement

Noncompetitive negotiation is allowed when:

i. it is necessary to test or demonstrate a specific thing, such as equipment or processes used in innovative technology designs;

ii. an item is available only from a single source;

iii. a public exigency or emergency exists and the urgency will not permit delay, or

iv. after solicitation from a number of sources, competition is inadequate (e.g., after formal advertising, no bids or only one bid is received).

Re: 40 CFR 33.605

h. Scope of Work

The contract documents must include a clear statement of work, especially where multiple contracts may be awarded. The statement of work must establish the limits of work for each contract, in order to eliminate confusion or overlapping of work between contractors. To the extent feasible, the limits of work for each contract should also be indicated on each page of the design drawings (i.e., plans). The statement of work must also include a required performance schedule for each contract and a requirement for coordination between contractors.

Re: 40 CFR 33.420(a)

i. Responsibilities of Parties

The specifications should provide a clear description of the responsibilities of each party, including the owner (grantee), the grantee's representative (generally the engineer's project inspector), and the construction contractor. The specifications should indicate who may authorize a change in the work (procedures for change orders are described in Section VII.H), who is responsible for checking quantities and quality of materials, who is authorized to allow extensions of time, who is authorized to approve the construction contractor's payment requests, who is authorized to interpret the plans and specifications and resolve conflicts, and how disputes are to be resolved. The specifications may also describe the role of the State, EPA and/or the U.S. Army Corps of Engineers (COE). In general, however, regulatory officials are observers to help insure that the project is constructed in accordance with the approved plans, specifications, and change orders. Their recommendations for compliance are provided only to and through the grantee.

Re: 40 CFR 33.210; EPA publication "Operating Procedures for Monitoring Construction Activities at Projects Funded under the Environmental Protection Agency's Construction Grants Program," September 1983

j. Subagreement

The contract documents must include a proposed subagreement which clearly sets forth the terms and conditions of the subagreement including payment, delivery schedules, points of delivery, and acceptance criteria. The subagreement must be a fixed price (lump sum) or unit price subagreement and shall incorporate by reference all contract documents, including plans, specifications, and addenda.

Re: 40 CFR 33.285, 33.420

k. Lower Tier Subagreements

The contract documents must require the prime contractor to include specific requirements in any lower tier subagreement awarded by the prime contractor. This requirement will be satisfied by inclusion in the contract documents of the required provisions described in Item m below.

Re: 40 CFR 33.295

l. Bonding and Insurance

For construction contracts of $100,000 or less, grantees may use local or State requirements for bonding. For construction contracts in excess of $100,000, the minimum EPA bonding requirements are:

i. bid guarantee (bond, certified check, or other negotiable instrument) equal to 5 percent of the bid price;

ii. performance bond for 100 percent of the bid price; and

iii. payment bond for 100 percent of the bid price.

Bonds obtained by bidders must be from companies holding certificates of authority as acceptable sureties in the State in which the project is located. It is recommended that that performance and payment bonds remain in effect for one year after contract completion.

Contractors should be required to obtain adequate construction insurance (e.g., fire and extended coverage, workmen's compensation, public liability and property damage, and all risk) in accordance with local or State laws.

EPA regulations require that a grantee participate in the National Flood Insurance Program if the proposed project involves construction or property acquisition in a flood hazard area. Adequate flood protection insurance must be provided for structures such as new or reconstructed surface structures which are walled or roofed (e.g., control building or pumping station), have a value of $10,000 or more, and are located in flood hazard areas. Construction contractors must also obtain adequate flood insurance during construction.

Re: 40 CFR 30.600(b), 33.265; Treasury Circular 570

m. Regulatory Provisions

The contract documents must include a copy of the most recent EPA specification inserts, including 40 CFR 33.295 ("Subagreement Awarded by a Contractor"), Subparts F ("Subagreement Provisions") and G ("Protests"), and EPA Form 5720-4 ("Labor Standard Provisions for Federally Assisted Contracts"). By including these inserts in the contract documents, many of the administrative requirements will be satisfied.

Subpart F includes subagreement provisions such as labor standards provisions, patents data and copyrights clause, violating facilities clause, energy efficiency clause and model subagreement clauses. The model subagreement clauses include the Buy American requirements (see Item 2.aa below) and the quality assurance requirements (see Section VI.5.M.f). With regard to the model subagreement clauses, the grant applicant may use the exact wording in 33.1030 or their equivalent, and should exclude those clauses which are not applicable to construction contracts. Grant applicants should be encouraged to have their model subagreement or substitute cluases reviewed by their legal counsel, to insure their compatibility with State laws and prevailing legal practices.

Re: 40 CFR 30.302(d)(3), 30.503(f) and (h), 33.420(f), 33.710; 40 CFR Part 33 Subparts F and G

n. Safety

Project specifications must require contractors to comply with applicable regulations issued by the Occupational Safety and Health Administration, U.S. Department of Labor (DOL). In addition, where a State has promulgated additional regulations concerning safety in design of structures or safety during construction, such regulations should be incorporated into the specifications (generally by reference).

At the time of plan and specification review, the reviewing agency should insure that the specifications require contractor compliance with applicable State and DOL safety requirements, as well as the specific additional safety provisions for chlorination facilities, wet and dry wells, and other hazardous locations which are described in Items 2.c through 2.e below.

o. Schedule

Each construction contract must include a completion schedule and provisions for coordination among contractors. Since the grant applicant is required to submit a project schedule with the grant application, the construction schedule should be reviewed for reasonableness and conformance with the project schedule, as well as with any permits, compliance schedules, court orders, or State administrative orders. The construction completion schedule is generally given in calendar days from the date of the notice to proceed, and forms the basis for assessing liquidated damages against the contractor (see Item r below). Any circumstances under which the completion schedule would be amended should be clearly defined in the contract documents, which should also indicate that a formal change order is required in such cases.

Re: 40 CFR 33.420(a), 35.2040(b)(6)

p. Permits

The contract documents should require that, to the extent possible, contractors obtain all necessary permits for construction. (Some permits may be required to be held by the owner of the project.)

q. Wage Rate Determination

Each EPA funded project with construction contracts in excess of $2,000 must contain the prevailing wage rate determination issued by DOL under the Davis-Bacon Act. The wage rate determination will include the prevailing wages and fringe benefits for various construction labor categories. Contractors are required to pay employees at least these prevailing wage rates. Since wage rate determinations are periodically revised, provision should be included in the contract document for updating the determination by an addendum if the determination is issued by DOL at least 10 days prior to bid receipt. Where project-specific rates are requested from DOL, this 10 day limitation does not apply, and the rates are applicable regardless of the date of issuance by DOL.

Re: 40 CFR 30.603(a), 33.420(e), 33.1016

r. Liquidated Damages

The assessment of liquidated damages by the grantee is a potential source of disputes and contractor counterclaims, and must therefore be carefully evaluated. EPA regulations contain no provisions for liquidated damages. However, many engineers include liquidated damages (e.g., $1,000 per day for each day of delay beyond the construction completion date) in the specifications. Where liquidated damages are included in the contract documents, they should be reviewed against applicable State laws and court decisions. The amount of liquidated damages should be adequate to cover additional costs which would be incurred by the grantee as a result of delay (e.g., additional inspections, interest on borrowed funds, etc.). Liquidated damages may affect allowable project costs (see Section IX.F.4, Paragraph A.3.a).

s. Change Order Procedures

A clause for changes (Paragraph 3) is included in the model subagreement clauses in 40 CFR 33.1030. However, the contract documents should also clearly describe the specific procedures, including negotiation, for reviewing and approving change orders (see Section VII.H).

t. Payment Request Procedures

The contract documents should clearly describe the procedures and timing for processing contractor payment requests, including payment request forms, documentation (e.g., paid invoices or inspector's verification of work in place), retainage, and time from receipt of payment request until payment.

u. Retainage

Many project specifications include a requirement for retainage of a portion of a progress payment request until the project is substantially or fully completed. Typical retainage is 5 to 10 percent of the monthly progress payment request until the project is substantially complete (e.g., 90 percent completion). When the project is substantially complete, the retainage is reduced to an amount at least equal to the value of any uncompleted or deficient work. Retained amounts are paid when remaining work items are satisfactorily completed.

Contract documents should clearly describe the grantee's retainage policy in order to preclude future disputes, and should be reviewed to ensure that the retainage policy is in accordance with State laws and requirements.

EPA regulations do not address retainage. However, EPA will only pay the grantee the Federal share of allowable project costs which are currently due and payable to the grantee (i.e., costs incurred by the grantee, minus any retainage). EPA may also withhold grant payments otherwise due a grantee for failure to comply with specific requirements and conditions of the grant agreement, but only to the extent necessary to insure compliance. In order to avoid any future cash flow problems, grantees should be advised of EPA's withholding policy (see Sections IX.B.2.b and IX.B.4).

Re: 40 CFR 30.902

v. Construction Incentive Clause

A construction incentive (CI) clause is an option which may be included in the contract documents if not prohibited by State and local laws. The CI clause allows a contractor or subcontractor to propose changes in the project which will:

i. provide at least a $50,000 gross capital savings,

ii. result in a net savings over the life of the project as demonstrated in a cost-effectiveness analysis, and

iii. not reduce the quality or integrity of the project, including compliance with NPDES or SPDES permit requirements.

Where a CI clause is included in the contract documents and the accepted CI proposal results in a savings of $1 million or less, the contractor may receive up to 50 percent of the net capital savings. Above $1 million, the contract may receive up to $300,000 plus 20 percent of the net capital savings.

Care must be exercised in reviewing contract documents which contain a CI clause to insure that it conforms with EPA's model CI clause.

Re: EPA publication, "The Construction Incentive Program," 1984

w. Small, Minority, Women's, and Labor Surplus Area Businesses

It is EPA policy that grantees award a fair share of subagreements to small, minority, women's and labor surplus area businesses. In doing so, EPA regulations require that grantees and prime contractors which award subcontracts take affirmative steps to assure that small, minority, and women's businesses are used when possible as sources of supplies, construction, and services. However, EPA no longer requires grantees to include goals in their specifications, nor will EPA Regions set goals for minority or women's business enterprises (MBE/WBE) participation for a particular grant. Rather, EPA Regions will negotiate a fair share and the procedures for implementation with State reviewing agencies. Grantees may also use their own goals, State goals, or other standards if desired.

In reviewing project specifications, the reviewer is to insure that the affirmative steps described below are reflected in the specifications, public notice, solicitation, or other activities which will be used by the grant applicant to obtain contractors and suppliers. In addition, the specifications must clearly indicate that if a prime contractor awards a subcontract, he must also follow these affirmative steps:

i. include qualified small, minority, and women's businesses on solicitation lists;

ii. insure that small, minority, and women's businesses are solicited whenever they are potential sources;

iii. divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation of small, minority, and women's businesses;

iv. establish delivery schedules, where requirements of the work permit, which will encourage participation of small, minority, and women's businesses;

v. use the services and assistance of the Small Business Administration and the Office of Minority Business Enterprise of the U.S. Department of Commerce as appropriate; and

vi. for projects which benefit American Indians, give American Indians preference in the award of subagreements.

EPA also encourages grantees to procure supplies and services from labor surplus area firms.

Re: 40 CFR 30.600(j), 33.240; preamble to
40 CFR Part 33, 48 FR 12923, "Small, Minority,
Women's, and Labor Surplus Area Businesses"
(March 28, 1983)

2. Technical Review

Except in the case of approved marine discharge waiver applicants, project designs must meet the minimum requirements for achieving secondary treatment or its equivalent, as defined in EPA's regulations (40 CFR Part 133), in order to be eligible for grant assistance. Plans, specifications, and contract documents must conform to State design criteria and also meet the requirements for competitive bidding in accordance with EPA's procurement regulations (40 CFR Part 33). Based on past experience, EPA has established, as described below, several basic policies concerning the design of treatment works which are to be incorporated into the plans and specifications. These items do not represent a complete list of design standards, and should be used only to supplement a State's design criteria.

a. Project Performance Standards

Grantees are required to certify, after one year of operation, whether the project meets its project performance standards. Therefore, at the time of plan and specification review it is necessary to establish the parameters which constitute project performance standards and judge whether the proposed project is likely to achieve a minimum of secondary treatment or its equivalent, in accordance with 40 CFR Part 133.

Project performance standards are performance and operational requirements applicable to the project, including the enforceable requirements of the CWA and the design upon which the specifications are based. For projects which will contribute to compliance with the enforceable requirements of the CWA, project performance standards include design criteria (e.g., engineers design report, facilities plan, plans and specifications) and effluent requirements. For projects which will not contribute to compliance with the enforceable requirements of CWA, such as interceptor sewers and pumping stations, project performance standards include only the design criteria. For projects which include sewer rehabilitation, the quantity of excessive infiltration and inflow which is to be eliminated is also considered a component of the project performance standards.

During the technical review of the plans and specifications, those parameters which constitute project performance standards should be identified and recorded in the project files and in the Grants Information and Control System (GICS) for later use. (This can usually be done even if a NPDES permit has not been issued at the time of design, since effluent limitations should have been established during facilities planning.) It may also be prudent to contact the grant applicant and reach agreement concerning project performance standards as a basis for future evaluation. At a minimum, the grant applicant should be informed of the parameters which have been identified as project performance standards (see Sections VI.M.5.g and VII.I.2.a).

Re: 40 CFR 35.2005(b)(15) and (b)(33), 35.2218;
40 CFR Part 133

b. Mitigation of Adverse Environmental Impacts

Plans and specifications should be compared to the facilities plan and the finding of no significant impact (FONSI) or the environmental impact statement (EIS) prepared for the project to insure that the project design incorporates all measures for the mitigation of adverse environmental impacts (i.e., measures to protect environmentally sensitive areas and cultural resources). Mitigation measures may include a soil erosion and control plan, fencing of "off-limits" areas to avoid physical disturbance, restrictions on hours of the day or seasons of the year for construction activities, backfilling and immediate seeding requirements, avoidance of impacts on cultural resources, structural designs for facilities located in floodplains or wetlands, etc.

Re: 40 CFR 6.509(b), 40 CFR 35.2030(b)

c. Chemical Storage and Hazardous Materials

All chemicals are to be properly stored, with curbs that would hold the entire volume in the event of an accidental spill. Adequate safety protection equipment (e.g., gas mask and self-contained air supply, eye wash, showers) is to be provided, placed in accessible locations, and ready for emergency use.

Hazardous materials, such as chemicals used in physical/chemical plants and chemicals used for conditioning sludge prior to filtration, may be subject to the provisions of the Resource Conservation and Recovery Act and/or the Toxic Substances Control Act. Where the reviewing agency anticipates that hazardous materials may be utilized in the treatment project, contact should be made with appropriate regulatory personnel to determine the applicable State or Federal regulations.

d. Chlorine Safety

Where the use of gaseous chlorination is justified (see Section IV.C.7.2.f), adequate safety provisions must comply with Federal and State requirements. At a minimum, these safety provisions should include the following:

i. Gas-tight partition separating the chlorination room from other parts of the building.

ii. Doors equipped with panic hardware, opening to the outside at ground level.

iii. Separate storage and feed areas.

iv. Clear, gas-tight glass window in exterior door or interior wall permitting viewing of the chlorination room without entering the room.

v. Provision for heating feed and storage areas and shielding chlorine containers from direct sunlight.

vi. Level rails or cradles designed for the specific purpose of storing chlorine cylinders.

vii. Forced mechanical ventilation of chlorine areas providing a complete air change every minute, with inlets and outlets at opposite ends of the room. Exhaust outlets should be at floor level, since chlorine gas is heavier than air. The system should be activated by external switches or automatic systems such as door activated mechanisms.

viii. Emergency eye baths and showers located external to but close by the chlorine room.

ix. Chlorine cylinder emergency repair kits readily available.

x. Strong solution of aqueous ammonia (18° Baume or higher) readily available for detecting sources of leak.

xi. Automatic chlorine detection system for plants of 1 mgd or more capacity (optional but encouraged for smaller plants) which sound alarms, flash lights, or notify operator or emergency response (police or fire) teams.

xii. Delivery of chlorine must comply with the U.S. Department of Transportation (DOT) regulations (49 CFR Parts 171 through 177). Rail delivery requires dead-end sidings used for chlorine delivery only (49 CFR 174.204).

xiii. Tank barge delivery of chlorine must comply with the COE and DOT regulations.

xiv. Chlorination and storage facilities must not be below ground level, and storage cylinders must be secured when not in use.

xv. Appropriate facilities and tools must be provided to allow for the transport, handling, and repair of chlorine cylinders.

xvi. At least two self-contained positive pressure headgear units with self-contained compressed air supply and full face mask, located external to but close by the chlorination room.

xvii. Color coding and labeling of chlorine piping and valves.

e. Wet and Dry Wells

Wet wells are subject to the introduction of hazardous gases through the inadvertent discharge of volatile products or the possible production of sewer gases. Wet wells, therefore, are classified under some circumstances as Class I, Division I, Groups C and D areas under the National Electrical Code. In such cases, the code requirements may be satisfied by the use of explosion-proof motors and non-sparking electrical equipment in these areas. Additionally, all electrical motors, enclosures, and equipment located in such wet wells should be protected against potential explosion.

Where adequate protection has been made against the introduction of hazardous gases, dry wells generally need not be classified under the National Electrical Code.

Wet and dry wells should be properly ventilated, with equipment activated by an external switch. Wet well ventilation should be designed to provide the introduction of fresh air into the wet well in such a way as to prevent drawing in gases from the influent sewer. This may be accomplished by using a fresh air supply fan rather than an exhaust fan.

f. Protection of Potable Water Supply

All potable water supplies must be protected from possible contamination by wastewater cross-connections by the use of approved reduced-pressure zone backflow prevention devices. EPA publication 430/9-73-002, "Cross-Connection Control Manual," 1973, contains design objectives and performance criteria, and may be used to evaluate the acceptability of proposed backflow prevention devices. All control devices must conform with State design standards.

g. Reliability

Facilities must be designed to preclude direct discharge of inadequately treated sewage, even during periods of major repairs or maintenance.

Equipment, unit processes, and the overall treatment system must be designed to provide reliable, continuous service. Depending on the size and complexity of the treatment plant, reliability may be assured through an analysis considering risk, costs, and benefits, or through the use of redundant components or unit processes. Many State design standards require the use of duplicate unit processes or the stocking of spare or standby equipment. The class of reliability designed into a project should take into account measures which are necessary to:

i. protect the public health,

ii. achieve water quality standards for both surface and groundwater discharges, and

iii. prevent environmental damage.

The class of reliability may also be determined by the use of the receiving waters and the probable adverse impact of an inadequately treated discharge upon them. One system for establishing the reliability class depends on the use of the receiving waters as follows:

Class I - discharge to waters that could be permanently or unacceptably damaged by inadequately treated effluent discharged for only a few hours (e.g., drinking water supplies, shellfish waters).

Table 1 Wastewater Treatment System Reliability

WASTEWATER TREATMENT SYSTEM

Features Common to Class I, II, III:

Trash removal or comminution

Grit removal - not applicable to treatment works which do not pump or dewater sludge (e.g., stabilization ponds)

Provisions for removal of settled solids - applicable to channels, pump wells, and piping prior to degritting or primary sedimentation

Holding basin - applicable to Class I with adequate capacity for all flows

Unit operation bypass - not applicable where two or more units are provided and operating unit can handle peak flow; applicable to comminution regardless of number of units

Component Backup Features	Class I	Class II	Class III
Backup bar screen for mechanically cleaned bar screen or comminutor	Yes	Yes	Yes
Backup pump	Yes[a]	Yes[a]	Yes[a]
Primary sedimentation basins	Multiple basins[b]	Multiple basins[b]	Minimum, two[b]
Trickling filters	Multiple filters[c]	Multiple filters[b]	No backup
Aeration basin	Minimum of two of equal volume	Minimum of two of equal volume	Minimum of two of equal volume
Aeration blowers or mechanical aerators	Multiple units[d]	Multiple units[d]	Minimum, two[d]
Air diffusers	Multiple sections[e]	Multiple sections[e]	Multiple sections
Final sedimentation basins	Multiple basins[c]	Multiple basins[b]	Minimum, two[b]
Chemical flash mixer	Minimum of two or backup[f]	No backup	No backup
Chemical sedimentation basins	Multiple basins[c]	No backup	No backup
Filters and activated carbon columns	Multiple units[c]	No backup	No backup
Flocculation basins	Minimum, two	No backup	No backup
Disinfectant contact basins	Multiple basins[c]	Multiple basins[b]	Multiple basins[b]

[a] Sufficient capacity of remaining pump to handle peak flow with one pump out of service

[b] With largest unit out of service remaining units have capacity for at least 50 percent design flow

[c] With largest unit out of service remaining units have capacity for at least 75 percent design flow

[d] With largest unit out of service remaining units able to maintain design oxygen transfer; backup unit may be uninstalled

[e] With largest section out of service oxygen transfer capability not measurably impaired

[f] If only one basin, backup system provided with at least two mixing devices (one may be uninstalled)

Table 2 Sludge Handling and Disposal System Reliability

SLUDGE HANDLING AND DISPOSAL SYSTEM

Features Common to Class I, II, III:

Alternate methods of sludge disposal and/or treatment - applicable to unit operations without backup capability

Provisions for preventing contamination of treated wastewater

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Component Backup Features Common to Class I, II, III:

Sludge holding tanks - permissible as alternative to backup capability with adequate capacity for estimated time of repair

Backup pump - sufficient capacity of remaining pumps to handle peak flow with one pump out of service; backup pump may be uninstalled

Anaerobic sludge digester

Digestion tanks - at least two digestion tanks

Sludge mixing equipment - backup equipment or flexibility of system such that with one piece of equipment out of service total mixing capability is not lost; backup equipment may be uninstalled

Aerobic sludge digester

Aeration basin - backup not required

Aeration blowers or mechanical aerators - at least two units: permissible for less than design oxygen transfer with one unit out of service; backup unit may be uninstalled

Air diffusers - with largest selection out of service oxygen transfer capability not measurably impaired

Vacuum filter - multiple filters with capacity to dewater design sludge flow with largest capacity filter out of service; each filter serviced by two vacuum pumps and two filtrate pumps

Centrifuges - multiple centrifuges with capacity to dewater design sludge flow with largest capacity centrifuge out of service

Incinerators - backup not required; backup required for critical auxiliary components (e.g., center shaft cooling fan)

Table 3 Electric Power System Reliability

ELECTRIC POWER SYSTEM

Features Common to Class I, II, III:

Power sources - two separate and independent electric power sources from either two separate utility substations or one substation and one standby generator.

Capacity of backup power source	Class I	Class II[a]	Class III[a]
Mechanical bar screen or comminutors	Yes	Yes	Yes
Main pumps	Yes	Yes	Yes
Degritting	Optional	No	No
Primary sedimentation	Yes	Yes	Yes
Secondary treatment	Yes	Optional	No
Final sedimentation	Yes	Optional	No
Advanced waste treatment	Optional	Optional	No
Disinfection	Yes	Yes	Yes
Sludge handling and treatment	Optional	No	No
Critical lighting and ventilation	Yes	Yes	Yes

[a] At least treatment equivalent to sedimentation (and disinfection if required to protect public health), unless a different level of treatment is required by the State agency.

Class II - discharge into waters that would not be permanently or unacceptable damaged by short-term discharges of inadequately treated sewage, but could be damaged by continued (several days) discharge (e.g., recreational waters).

Class III - All other discharges not included in Class I or Class II.

For each class, Tables 1 through 3 provide recommendations for backup or standby unit processes or equipment. Table 1 concerns the wastewater treatment system, Table 2 the sludge hauling and disposal system and Table 3 the electrical power system. The reviewer must exercise judgement with regard to evaluation of reliability and should at least insure that the design complies with minimum State requirements.

Re: EPA publication 430/99-74-001 (formerly MCD-05), "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability," 1974

h. Shellfish Waters

Projects which discharge into shellfish waters may be subject to more stringent requirements with regard to reliability, disinfection, or other protective design features. These projects may be subject to requirements from the State water pollution control agency, State health agency, or interstate organizations, and should be reviewed against such requirements.

i. Electrical Power

Treatment plants and pumping stations are to be designed to preclude bypassing of inadequately treated sewage. Depending primarily on the size of the facility, this may be accomplished through the use of high level overflows, diversions to temporary storage facilities, or alternate power sources during a period of power outage. Where available, power should be supplied from two independent power sources (e.g., two separate power lines not on the same pole, which come from two different major power substations, which in turn are supplied from two independent sources), or supplemented by a standby generator.

Alternate power sources should be sufficient to operate essential equipment (see Table 3 above), and in the case of a treatment plant without temporary storage, to provide at least sedimentation (and disinfection, if required to protect public health), unless a different level of treatment is required by the State agency. Standby power may be either portable (for use with multiple small pumping stations) or permanent (for larger pumping stations and treatment facilities). Permanent standby generators may be used to supplement normal power sources during peak demand, and should be equipped with trickle transformers and running clocks. Trickle transformers allow the standby generator starting battery to be continuously charged, and running clocks (generally required as part of the warranty by equipment manufacturers) display the number of hours that the generator has operated.

Because of its high vulnerability to overturning, all electrical power equipment (e.g., transformers, generators, batteries, etc.) must be securely anchored to prevent movement in the event of an earthquake. (In some areas, more extensive seismic safety measures, beyond the scope of this Handbook, will also be required.)

The plans and specifications should include a clear explanation of the responsibilities of and coordination between the utility company and various contractors. The specifications should clearly identify:

i. the electrical utility company which will supply electrical service to the treatment works;

ii. the specific equipment or service to be supplied by the utility company and contractor which will result in a complete and operable electrical system;

iii. the specific equipment or service to be supplied by the mechanical and electrical contractor in providing a complete operable electrical power system for all mechanical equipment, control systems, and instrumentation; and

iv. the parties responsible for providing temporary electrical power during construction.

j. Loadings

The design loadings for various unit processes should comply with State design standards and in the case of land application systems, EPA's minimum requirements (see Item 1 below). Loadings such as surface settling rates, detention times, food to microorganism (F/M) ratios, sludge return rates, loadings on sludge dewatering equipment, pump capacities, and peaking factors should be adequate for both initial operation and the design flow, taking into account diurnal variations in flow.

k. Hydraulic Profile

The hydraulic profile of the treatment plant must be reviewed to insure that elevations are adequate, taking into account head losses through pipes and channels. Particular attention should be given to projects using trickling filters with dosing siphons.

l. Land Application Systems

Land application systems for both the treatment and disposal of wastewater should be based on the applicable loading and other design criteria discussed in EPA publication 625/1-81-013, "Process Design Manual, Land Treatment of Municipal Wastewater," October 1981.

The specifications must describe the climatic conditions under which construction may take place and the specific size of construction equipment necessary to protect soil integrity during construction.

Particular attention must be given to the level of treatment and temporary storage prior to land application of wastewater, as this may effect the eligibility of portions of the treatment facilities. Extensive and unnecessary treatment or storage capacity prior to land application will not be eligible for grant assistance.

m. Sewers

Sewers and interceptors should be adequately sized to insure minimum scouring velocities and reasonable peaking factors. Collection sewers should conform with State standards and include properly designed fittings for house connections. Manhole spacing, grades, alignment, elevations, materials of construction, and connections should conform to State standards and be designed to minimize possible sources of infiltration and inflow. Bedding, backfill materials and compaction requirements should be specified to insure the integrity of the sewers for their useful life. Infiltration and exfiltration testing by the contractor should be required as a criteria for acceptance.

n. Sewer Rehabilitation

Where sewer system rehabilitation is an eligible part of the project, the specifications should dictate the sequence of construction (e.g., where necessary, sewer cleaning and closed circuit television inspection with possible air pressure testing of joints followed by joint grouting, manhole grouting, slip lining, or sewer replacement). Because of unforeseen construction difficulties, bid prices for sewer rehabilitation should be unit prices based on estimated quantities. The specifications may also include provisions for post testing as a condition of acceptance after rehabilitation of various sections. This may be particularly important since grantees are required to certify after one year of operation whether the project is meeting its performance standards, including the elimination of excessive infiltration/inflow.

o. Small Systems

Small wastewater treatment projects may range from rehabilitation of failed onsite septic systems to larger cluster systems using small diameter gravity, vacuum, or pressure sewers. Since long term experience with these systems (excluding septic systems) is not readily available, the technical review of the plans and specifications must carefully consider both design and O&M criteria. Design should conform with EPA's design manual (see Item 1 above) and with State standards for percolation rates, distribution systems, and depth to groundwater and bedrock. Where pressure systems are employed using individual pumps, the specifications should provide for the stocking of a reasonable number of replacement pumps or spare parts. Small systems are also discussed in Sections IV.C.6.10.d and VI.E.1.

Re: 40 CFR 35.2034, 35.2110; EPA publication 625/1-80-012, "Design Manual, Onsite Wastewater Treatment and Disposal Systems," October 1980.

p. Sludge Management

In most cases, sludge must be disposed of in one of three ways: land application, burial in a secure landfill, or incineration. Design of facilities for the disposal of sludge, including intermediate steps such as conditioning, digestion, dewatering, and composting, should be based on the minimum requirements set forth in the following EPA manuals:

i. EPA publication 625/1-83-016, "Process Design Manual, Land Application of Municipal Sludge," October 1983;

ii. EPA publication 625/1-79-011, "Process Design Manual, Sludge Treatment and Disposal," September 1979;

iii. EPA publication 625/1-78-010, "Process Design Manual, Municipal Sludge Landfills," October 1978;

iv. EPA publication 625/1-82-014, "Process Design Manual for Dewatering Municipal Wastewater Sludge," October 1982;

v. EPA publication 430/9-81-011 (formerly (MCD-79), "Technical Bulletin, Composting Process to Stabilize and Disinfect Municipal Sewage Sludge," June 1981; and

vi. EPA publication 625/6-82-006, "Handbook for Remedial Action at Waste Disposal Sites," June 1982.

For incineration or thermal reduction, the Clean Air Act requires that the discharge gases meet the requirements of an approved State Implementation Plan (40 CFR Part 52), the New Source Performance Standards (40 CFR Part 60), and the National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61). Ash (residuals) resulting from incineration must be disposed of in a manner which protects the public health and water quality (both surface and ground water).

An alternate means of sludge disposal is ocean dumping. Ocean dumping of municipal sludge has been the subject of considerable controversy and litigation. Where ocean dumping is proposed by a grant applicant, special review procedures beyond the scope of this Handbook are to be employed.

Design of sludge disposal processes must comply with applicable State and EPA standards. The use of individual process units (e.g., centrifuges, belt presses, vacuum filters, incinerators) should not exceed manufacturers' recommended loadings. Sufficient capacity must also be included to allow for time lost to equipment startup and maintenance (e.g., capacity based on a six hour day if only one work shift is used).

Domestic sewage sludge is not listed as a hazardous waste under the Resource Conservation and Recovery Act. Furthermore, since grant applicants must develop a pretreatment program if industrial discharges are likely to interfere with the treatment process or sludge disposal, it is reasonable to assume that industrial wastes which may cause sludge to be considered hazardous will be prohibited from discharge into the sewer system. However, if an existing facility, under very unusual circumstances, is receiving industrial wastes which may cause the sludge to be classified as a hazardous waste, the storage, transport, and disposal of sludge may be subject to EPA regulations. It is the grant applicant's responsibility to determine if the sludge is a hazardous waste and if so, to comply with the appropriate regulations and permit procedures. In general, the characteristic most likely to cause sludge to be hazardous is the toxicity level as determined by the extraction procedure test, with cadmium being the most frequent contaminant.

Re: 40 CFR 35.2005(b)(12)(iii); 40 CFR Part 257; 40 CFR Part 261, Subparts C and D; EPA publication 430/9-80-015 (formerly MCD-72), "A Guide to Regulations and Guidance for the Utilization and Disposal of Municipal Sludge," 1980; EPA publication 430/9-80-001 (formerly MCD-61), "Evaluation of Sludge Management Systems, Evaluation Checklist and Supporting Commentary," October 1979.

q. Bypassing during Construction

Bypassing of inadequately treated sewage during construction is normally not allowed. The construction sequence must be such that wastes are provided a minimum of sedimentation (and disinfection if required to protect public health) during all phases of construction, unless a different level of treatment is required by the State agency. Where absolutely unavoidable, bypassing may be employed for short periods, but only after approval by the reviewing and permitting agency.

r. Ease of Maintenance

Equipment which will require routine maintenance (e.g., lubrication of bearings, changing of oil and filters, replacement of belts) should be designed and located in such a way to provide ease of maintenance. Piping should be color coded, with arrows indicating the direction of flow. Valves and controllers should be readily accessible, especially those used to control routine operations. Adequate railings, guards, and other safety devices should protect operating personnel during routine maintenance.

s. Emergency Alarms

Emergency sirens, lights, or other alarms should be provided, depending on the size and complexity of the project. Emergency alarms should notify operators or emergency personnel (e.g., police, fire, disaster coordinator, etc.) in the event of failures such as power outage, major equipment failure, chlorine leak, or explosive gases in influent wastewater or digestion facilities.

t. Pretreatment

In reviewing the plans and specifications, it is necessary to compare the design considerations against the municipal pretreatment program developed by the grant applicant in accordance with 40 CFR Part 403 (see Section IV.E.2). Where allowed, some nonresidential wastes may increase pollutant or solids loadings (e.g., dairy processing or pulp and paper mill wastes), thereby requiring special design for various unit processes. This review may also help identify those portions of a treatment plant, if any, which are not eligible for grant participation.

u. Aesthetics

One area of particular difficulty in reviewing treatment plant designs concerns the inclusion of reasonable and compatible aesthetic features. It is EPA policy that only essential structures, equipment, and unit processes necessary to meet the projects performance standards are allowable for grant participation. This policy, however, must be tempered by thoughtful consideration of the project's location, visibility, and proximity to nearby residential, commercial, and historic properties. Reasonable aesthetic features such as plantings in buffer zones, revegetation of disturbed lands, compatible architectural features, etc. may be considered allowable costs if approved by the reviewing agency (see Section IX.F.4, Paragraph B.2.a). Other features such as brick veneer on process units, unusual building shapes, special siding on buildings, covered walkways, fountains, or office paneling must be questioned, and where necessary, justified by an analysis similar to a value engineering study.

Re: EPA Audit Resolution Board Decision 13/14, "Criteria for Assessing the Allowability of Aesthetic Features and Landscaping on EPA Construction Grant Projects," February 24, 1984.

v. Laboratory Facilities

Laboratory facilities and supplies should be sufficient to provide for sampling and testing, according to approved methods, that is necessary for daily operational control and for preparation of reports submitted to State regulatory agencies for those effluent parameters specified in the NPDES or SPDES permit. Except where mandatory implementation of the pretreatment program is required for a major wastewater treatment works, expensive and sophisticated tests should not be performed. Where periodic expensive and sophisticated tests are to be conducted (e.g., periodic checking on industrial waste discharges) consideration should be given to contracting with a nearby university laboratory facility, larger adequately equipped treatment plant, or licensed commercial testing firm in lieu of onsite facilities.

w. Handicapped Design Considerations

Design of wastewater treatment facilities initiated after February 13, 1984 must comply with EPA nondiscrimination regulations. These regulations require wastewater treatment facilities to be designed to provide accessibility to the maximum extent possible to potential handicapped employees. In meeting these accessibility requirements, a grant applicant is not required to take any action that would result in a fundamental alteration in the nature of the treatment facility, or an undue financial or administrative burden. Thus, accessibility for handicapped persons would not have to be provided solely to allow all members of the general public to tour all areas of the facility. Similarly, accessibility would not have to be provided to areas where, because of the nature of the facility and the requirements of the jobs there, it is unlikely that persons with particular handicaps could meet the physical requirements for those jobs, even with reasonable accommodation. For example, elevator access need not be provided to those areas of a treatment plant in which full mobility would be necessary to perform the essential functions of the jobs in those areas. However, administrative and laboratory areas must be accessible to persons in wheelchairs.

Recent court decisions have limited the extent to which these regulations can be enforced in certain States. However, this limitation applies only to grantee employment practices, and does not change the design requirements for physical accessibility.

Any construction for which design was initiated prior to February 13, 1984, must comply with the U.S. Department of Health and Human Services (DHHS) nondiscrimination regulations, or with equivalent standards that ensure that the facility is readily assessible to and usable by handicapped persons.

Both the EPA and DHHS regulations require that alterations to existing facilities must, to the extent feasible (both structurally and financially), be designed and constructed to be readily accessible to and usable by handicapped persons. If structural changes are necessary, a transition plan must be prepared by the grant applicant.

Designs conforming with the "American National Standard Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped" published in 1980 by the American National Standards Institute (ANSI A 117.1) constitute compliance with both the EPA and DHHS regulations. The principal areas of judgement are the extent to which various areas of the treatment works must be accessible and the classification of various structures as either "existing" or "new".

Re: 40 CFR Part 7, Subpart C; 45 CFR Part 84, Subpart C; preamble to 40 CFR Part 7, 49 FR 1656 and 1657 (January 12, 1984).

x. Use of Mercury

While EPA continues to have concerns about the safe use of mercury seals, the cost of process equipment such as rotary distributors on trickling filters and comminutors that use mercury seals is no longer listed as an unallowable cost.

Mercury float switches or other such devices using small quantities of mercury are acceptable provided reasonable care is exercised by the use of self contained, leak proof, or corrosion resistant enclosures.

Where a project involves the rehabilitation of existing facilities on which mercury seals have been used, grantees are encouraged to replace the mercury seals with other types of acceptable (e.g., mechanical) seals. If significant additional cost or operating and maintenance problems will result from the conversion from mercury seals, their continued use may be approved provided the grant applicant:

i. agrees to comply with the applicable provisions of the Toxic Substances Control Act, Resource Conservation and Recovery Act and Solid Waste Disposal Act;

ii. acknowledges potential liability for damages related to the discharge of mercury contaminated effluent or sludge;

iii. establishes a mercury spill monitoring program, including an annual mercury inventory;

iv. establishes an emergency response program for the safe disposal of mercury contaminated effluent or sludge and the immediate notification of downstream water users of possible mercury contamination; and

v. requests modification of the NPDES or SPDES permit to identify a potential mercury contamination hazard.

Re: Preamble to 40 CFR Part 35, Subpart I,
49 FR 6232 (February 17, 1984).

y. Reconfirmation of Innovative or Alternative Technology

While not specifically required by EPA regulations, review of project design may also afford an opportunity to recontirm earlier decisions, generally made on the basis of preliminary information in the facilities plan, concerning the classification of the project or project components as innovative or alternative (I/A) technology (see Section VI.E.3). Grant applicants should be notified of any changes to the I/A classification, since this will affect project financing.

z. Project Sign

The specifications must require the contractor to provide and erect a project sign in accordance with the project sign details found in the EPA publication, "Construction Grants 1985" (CG-85), or in accordance with alternative State requirements which have been approved by EPA.

aa. Buy American

By inclusion of the model subagreement clauses or their equivalent in the specifications (see Item 1.m above) the grant applicant has initially satisfied the Buy American provision. However, the regulations further clarify this issue by providing that contractors must use domestic construction material in preference to nondomestic material if it is priced no more than 6 percent higher than the bid or offered price of the non-domestic material, including all costs of delivery to the construction site and any applicable duty, whether or not assessed. Where a product consists of domestic and nondomestic materials the product shall be considered domestic if the American manufactured components represent 50 percent or more of the product.

EPA may waive the Buy American provision based upon relevant factors such as:

i. such use is not in the public interest,

ii. the cost is unreasonable,

iii. available EPA resources are not sufficient to implement the provisions (requires EPA Headquarters approval),

iv. products are not reasonably available or of satisfactory quality in the United States, and

v. provisions conflict with multilateral government procurement agreements (requires EPA Headquarters approval).

Re: 40 CFR 33.710; 40 CFR 33.1030, Paragraph 12

bb. Nonrestrictive Specifications

Specifications must be written to encourage free and open competition. The specifications shall contain a clear and accurate description of the technical requirements for the material or product. The description shall include a statement of the qualitative nature of the material or product and set forth those minimum essential characteristics and standards to which it must conform.

When, however, in the judgement of the grant applicant it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used to define the performance or other salient requirements of the material or product. In so doing, the specifications must clearly state the salient requirements which must be met by the material or product.

With regard to materials such as pipe or grout, it is preferable to use nationally recognized performance specifications such as AWWA, ASTM, or Federal specifications.

While the decision to use a "brand name or equal" specification rests with the grant applicant, the project reviewer is to insure that the exercise of this provision does not frustrate the requirements for free and open competition.

An exception to the nonrestrictive specifications requirement is allowed where the features of a material or product are necessary to demonstrate a specific thing, such as in the case of proposed innovative technologies, or to provide for the interchangeability of parts or equipment.

Where a grant applicant uses restrictive specifications, it may be prudent to advise the grant applicant that the project files should contain a justification for such actions, developed prior to the bid opening date, in the event of a future bid protest.

Re: 40 CFR 33.255

cc. Subsurface Information

Adequate subsurface information (soil borings, etc.) must be provided to allow each bidder to accurately estimate the cost of excavation required by the plans and specifications. Failure to provide such information increases the probability of a future contractor claim under the "differing site conditions" clause.

dd. Storage of Equipment and Materials

The specifications should require that equipment and materials delivered to the project site are properly secured and stored in accordance with the manufacturer's recommendations. If the grantee purchases equipment directly from a supplier, specific provisions must be made for transfer of ownership of the equipment from the grantee to the contractor.

3. Biddability and Constructibility Review

In order to prevent unnecessary costs due to such problems as unclear specifications or unusual construction techniques, it is important that plans and specifications be reviewed for biddability and constructibility (B/C). While the B/C review does not involve an evaluation of the adequacy of design to achieve the required level of treatment, it does attempt to insure that the plans and specifications are suitable for bidding and that the project can be constructed as proposed.

a. Biddability - A "biddability" review esentially attempts to insure that:

   i. the bid documents are clear and understandable,

   ii. all necessary information has been included,

   iii. the project is divided into biddable packages or contracts,

   iv. specific bid items are clearly defined to facilitate bidding and evaluation, and

   v. the plans and specifications are sufficiently detailed to allow reasonable bidding.

b. Constructibility - A "constructibility" review evaluates the suitability of the proposed project and its components in relation to the project site, including:

   i. any potential construction constraints imposed by the site,

   ii. real or possible conflicts inherent in the plans and specifications,

   iii. compatability between plans and specifications,

   iv. compatability of the plans and specifications with construction procedures and equipment, and

   v. other potential problems in constructing the project.

Because this review requires an up-to-date knowledge of current construction practices and the cost and availability of various categories of labor and construction equipment, it is usually performed by specialized personnel who maintain this up-to-date knowledge. In some States, the COE performs this review for the State agency, under an interagency agreement with EPA (see Section I.F.5).

4. Discrepancies

Contract documents, plans, and specifications are reviewed by the reviewing agency to insure that they meet minimum State and EPA requirements concerning treatment level and competitive bidding. Implicit in this review is the assumption that the project, if constructed in accordance with the plans and specifications, will achieve the effluent limitations and project performance standards required by the NPDES or SPDES permit. The review is also to insure that sound engineering design principles are employed, primarily with regard to sanitary engineering process considerations. Structural, electrical, and mechanical details of design are not normally reviewed, as they are the responsibility of the engineer whose seal appears on the plans and specifications. Obvious irregularities, however, should be called to the attention of the design team through the grant applicant.

Discrepancies or deviations from State or EPA requirements are to be noted and brought to the attention of the grant applicant for resolution. Failure on the part of the grant applicant to resolve discrepancies or to provide documentation supporting a deviation from the requirements may form the basis for denial of grant assistance.

The conduct of the review by the reviewing agency does not relieve the design engineer or grantee of their legal liability for the adequacy of the design. Neither EPA nor the State agency is responsible for increased costs resulting from defects in the plans, design drawings and specifications, or other contract documents.

D. VALUE ENGINEERING

Purpose:

A VE study is a specialized cost control technique which identifies unnecessary high cost in a project and recommends more economical means of satisfying performance requirements without sacrificing quality or reliability.

Discussion:

A VE study is required for all projects which have not received design (Step 2) grant assistance from EPA and whose total estimated building costs are more than $10 million (including sewers). A VE study is also required for all projects which received a Step 2 grant after July 1, 1976 and whose total estimated building cost (excluding interceptor and collection sewers) is $10 million or more. A VE study is encouraged for all other projects because of the potential savings which may be realized.

The reviewing agency should insure that the VE team and the VE scope of work are commensurate with the size and complexity of the project. At the time of plan and specifications review, the reviewer is to note the VE recommendations and whether or not these recommendations have been incorporated into the project design.

A VE team consists of multidisciplinary design professionals guided by a VE coordinator. Disciplines represented on the team may include sanitary, electrical, mechanical and civil/structural engineers, a treatment plant operator and a cost estimator. The VE coordinator should have demonstrated technical and managerial capability, have completed a 40-hour VE workshop and have participated in at least two VE studies on wastewater treatment projects. It is desirable for the VE coordinator to be a Certified Value Specialist. Other team members should be experienced professionals with VE training, and ideally should have participated in other VE studies on wastewater treatment projects. Because it is essential that the VE team be independent and objective, it is strongly recommended that a separate VE contractor be employed in lieu of a subcontractor to the design firm. Where it is necessary to have the same firm provide both the design team and the VE team, specific measures must be taken to ensure the independence of the VE team (e.g., no person can be a member of both teams; teams work in separate offices; teams report to two different vice presidents, etc.).

The scope of work for the VE study should be commensurate with the size and complexity of the project, and should include a review of all components of the project. Depending on the size and complexity of the project, the VE effort may vary from one VE team and one review session to multiple teams and multiple review sessions. The VE study for a large wastewater treatment plant should include at least two review sessions: at the 20 to 30 percent design stage, an evaluation of plant layout, structural design process units, and hydraulic capacity; and at the 65 to 75 percent design stage, an evaluation of the electrical and mechancial systems.

The VE methodology will employ several phases of investigation such as:

- information phase,
- speculative or creative phase,
- evaluation and analytical phase,
- investigation phase, and
- development of recommendations.

The VE study will conclude with a final report (intermediate reports may also be issued) which incorporates:

- accepted VE recommendations,
- costs and schedules for implementing the accepted recommendations,
- rejected recommendations and reasons for rejection, and
- net savings from the VE recommendations over the useful life of the project.

In order to better understand the VE recommendations, it may be helpful for the reviewer to attend key sessions of the VE review. Grant applicants should be encouraged to implement all feasible recommendations of the VE study, and rejection of recommendations should be adequately justified before acceptance of the study by the reviewing agency. However, reviewing agencies must exercise reasonable judgement in questioning those recommendations not accepted by the grant applicant.

Review Procedures:

1. Conduct of the Study

During periodic progress reviews with the grant applicant, review:

a. the scope of the VE study to insure that it is commensurate with the size and complexity of the project;

b. the qualifications of the VE coordinator and team members;

c. the independence and objectivity of the VE team; and

d. the methodology proposed or employed during the study.

2. Implementation of Recommendations

At the completion of the VE study and during review of the plans and specifications:

a. obtain a copy of the final VE report, noting recommendations accepted and net cost savings (both capital and O&M over the life of the project);

b. insure that accepted recommendations are incorporated into the project design and reflected in the plans and specifications; and

c. review VE recommendations rejected by the grant applicant and the justification for rejection.

Re: 40 CFR 35.926, 35.2114; EPA publication 430/9-76-008, "Value Engineering Workbook for Construction Grant Projects," July 1976.

E. USER CHARGE SYSTEM

Purpose:

Develop a municipally enacted financial managment system which provides for the collection of revenues from users in proportion to their use. Collected revenues must be sufficient to offset the costs of operation, maintenance, and replacement of equipment (OM&R).

Discussion:

As a prerequisite to Step 3 grant award, the UC system submitted by the grant applicant and by each subscriber community must be approved by the reviewing agency. The UC system provides for the collection of revenues from all system users to offset OM&R costs, including salaries, supplies, chemicals, utilities, insurance, and replacement of equipment and accessories (e.g., pumps, motors, bearings, etc.) which are necessary during the useful life of the project to maintain capacity and performance. As a component of the UC system, the term "replacement" does not include the replacement of the treatment works at the end of its useful life. The UC system mandated by EPA regulations also does not include charges levied on customers to pay bond interest, retire bonds, or amortize debt.

The charge to each user must be based on actual use, ad valorem taxes, or a combination of both. A system based on actual use (or estimated use during the first year for new facilities) assumes that discharges are measured in some way, such as through water meters (or sewage flow meters for large industrial dischargers), and that each user or class of users pays its proportionate contribution relative to the total flow. Very often the basic UC will be proportionate to the volume of discharge with a surcharge added for nondomestic wastes, considering items such as sewage strength and rate of discharge (e.g., peak flows). The UC system must also provide that each user which discharges pollutants that cause an increase in the cost of managing effluent or sludge pay for such increase based on the actual additional cost.

The use of ad valorem taxes as a basis for a UC system is allowed under EPA regulations for a grant applicant which had in existence on December 27, 1977, and in continuous use thereafter, a system of dedicated ad valorem taxes for the collection of revenues to offset wastewater treatment OM&R costs. In most cases, the existing system will require revision to meet EPA requirements. To be approvable, the proposed UC system must distribute costs to residential and small nonresidential users (including, at the grant applicant's option, commercial and industrial users discharging no more that the equivalent of 25,000 gallons per day of domestic sanitary waste) in proportion to their use as a class, and must charge each commercial and industrial user discharging more than 25,000 gallons per day its share based upon actual use. This last requirement is normally met through the use of a surcharge based on sewage strength and/or rate of discharge. In some cases, rebates of property taxes may be required for industries with large property taxes and proportionately smaller wastewater loadings.

Communities with combined sewer systems, or with significant amounts of inflow into nominally separate sewer systems, may distribute the OM&R costs of treating this flow among all users based either on actual use, or on a system which uses factors such as flow, the land area of each user, or the number of hookups or discharges (or property value for ad valorem systems). Projects which generate revenues from the sale of wastewater byproducts (e.g., sale of crops, sludge fertilizer, digestor gas, etc.) must use the revenues to reduce all user charges proportionately.

The UC system represents part of the financial management system developed by the grant applicant and must include an accurate accounting of generated revenues, expenditures and reserves for replacement. The financial management system must provide for periodic revision to UC rates and an annual notification to users, in conjunction with a regular bill, of the UC rates (including surcharge rates) and the portion of total charges attributable to wastewater treatment. If the grant applicant will provide wastewater treatment services to other subscriber communities, each such community must also enact a UC system as described above. The UC system developed in accordance with EPA regulations will take precedence over any terms or conditions of other inconsistent agreements.

Review Procedures:

The reviewer of a proposed UC system should:

1. Compare the proposed UC rates against those presented to the public during facilities planning. If a significant increase has occurred, it may be necessary to provide for additional public participation.

2. Insure that the budget upon which the user charges are based include reasonable OM&R costs. Debt, bond costs, and other costs not associated with OM&R are not subject to EPA regulations, and must be separately identified by the grantee and recovered separately from the UC system.

3. For systems based on actual use, insure that each user or class of users will pay its proportionate share, and that a reasonable means of determining actual use has been or will be established.

4. For systems based on ad valorem taxes, insure that the limitations described in the discussion above are satisfied.

5. Insure that OM&R costs for treating I/I (and storm water in systems with combined sewers) are proportioned among all users based either on actual use, or on factors such as flow volume, land area of users, or number of hookups or discharges (or property valuation only for ad valorem systems).

6. Insure that the system provides for an accurate accounting of revenues and expenditures, periodic updating (first year may be based on estimates for new systems and ideally annual updating thereafter) and annual notification to users of the UC rates and portion of charges for wastewater treatment services.

7. For multijurisdictional projects, insure that each participating community will enact a UC system.

8. Insure that the UC system will take precedence over any other inconsistent agreement.

9. Insure that the UC system is in a form which will allow municipal enactment before the project is placed in operation, and will continue for the life of the project.

Re: 40 CFR 35.2140, 35.2122, 35.2208; EPA publication 430/9-84-006, "User Charge Guidance Manual for Publicly-Owned Treatment Works," June 1984; EPA publication, "Utility Manager's Guide to Financial Planning," May 1984.

F. SEWER USE ORDINANCE

Purpose:

Develop an ordinance which will limit the types and amounts of materials discharged into the sewer system, preclude the introduction of new inflow sources, and protect the integrity of the wastewater treatment and disposal system.

Discussion:

As a prerequisite to Step 3 grant award, the reviewing agency must approve the grant applicant's SUO or other legally binding instrument. Regulatory requirements for the SUO include:

- prohibition of new inflow sources;
- proper design and construction of new sewers and connections, and
- prohibition of toxic waste or other pollutants in amounts or concentrations that:
    - o endanger the public safety or the physical integrity of the plant,
    - o cause violation of effluent limitations, or
    - o preclude the selection of the most cost effective alternative for wastewater treatment and sludge disposal.

While the three items above are required, the SUO may also be used as a legal basis for other municipal requirements which represent good management practices. These requirements may include:

- removal of illegal connections or rehabilitation of deficient sewer connections as a condition of property sale,
- limitations on wastewater strength from non-domestic users,

- prohibition against dilution,
- notification procedures concerning accidental spills,
- discharge reporting requirements,
- rights of all parties, including the right of the municipality or authorized EPA/State personnel to enter all properties for testing and measurement,
- rights of industrial users, including protection of trade secrets, and
- safety requirements.

Subscriber communities must also enact SUOs, in order to provide protection for the entire system. These subscriber communities' ordinances must also be approved by the reviewing agency.

Review Procedures:

An approved SUO must, at a minimum:

1. Prohibit new inflow sources.
2. Require the proper design and construction of new sewers and sewer connections.
3. Prohibit toxic or other pollutants in amounts or concentrations which:
   a. endanger public safety or the physical integrity of the treatment works,
   b. cause a violation of effluent limitations, or
   c. preclude selection of the most cost effective alternative for wastewater treatment and sludge disposal.
4. Be adopted before the project is placed in operation.

Re: 40 CFR 35.2122, 35.2130, 35.2208

G. PLAN OF OPERATION

Purpose:

Develop a descriptive, chronological planning schedule for the operation and maintenance of the treatment works which considers activities necessary during construction, startup, and continuing operations.

Discussion:

As a prerequisite to Step 3 grant award, a draft plan of operation must be submitted by the grant applicant. The plan of operation should include both a description of and a schedule for significant actions required during construction, startup, and the first year of operation. The plan of operation should address the development and implementation of an operating budget, administrative procedures, staffing and training plans, and an O&M manual. Since the dates for specific actions contained in the plan of operation's schedule are not known at the time of design, they may be related to a percentage of construction completion. A final plan of operation must be approved before more than 50 percent of the EPA grant may be paid (see Section IX.B.5.a).

Review Procedures:

The draft plan of operation shall consist of a descriptive schedule which addresses the development and implementation of the following items:

1. Budget

   An adequate budget is needed to provide for the efficient administration of the project. The budget should include estimates for salaries, supplies, utilities, training, contract services, replacement parts, and other items necessary for operation and maintenance. The budget will form the basis for computing user charges (see Section E above). Particular attention should be directed at estimated operator salaries and benefits to insure that they are sufficient to attract and retain qualified personnel.

2. Administrative Functions

   These include procedures for submission of State required operating reports, purchasing procedures, and the development and implementation of a maintenance system, a financial management system, and a property management system.

3. Staffing and Training

An adequate staffing plan (compatible with the size and complexity of the facilities) should include the organizational structure, job descriptions, salaries, numbers of staff, and license requirements for operators. The chief operator should be hired before construction is 50 percent complete and hiring problems, if any, should be identified 60 days before startup and resolved within the next 30 days. Employee training in safety and operations should begin 30 days prior to startup and should continue during at least the first year of operation.

4. Operation and Maintenance Manual

An adequate O&M manual is needed as a day-to-day guide for operators. It includes items such as:

a. design information, including design and peak flows, pump capacities, detention times, F/M ratios, mixed liquor suspended solids (MLSS) levels, and other design criteria;

b. startup procedures for each unit process and piece of equipment;

c. unit process monitoring and control information;

d. maintenance management system and schedule for lubrication, oil and filter changes, and other preventive and routine maintenance;

e. laboratory tests for monitoring and controlling unit processes and specific laboratory test reports to be sent to State agencies;

f. safety procedures, with particular emphasis on hazardous areas such as wet and dry wells, chlorination facilities or anaerobic digestors;

g. troubleshooting procedures for problems which typically occur in treatment facilities;

h. emergency operating plan which anticipates emergency conditions (e.g., power outage, chlorine leak, excessive flows) and designates officials to be notified and procedures to be followed until normal operations can be resumed.

The final O&M manual must be approved before more than 90 percent of the grant may be paid (see Section IX.B.5.b).

Re: 40 CFR 35.2106; EPA publication 430/9-74-001, "Considerations for Preparation of Operation and Maintenance Manuals," 1974.

H. INTERMUNICIPAL SERVICE AGREEMENT

Purpose:

Develop an intermunicipal agreement for projects serving two or more municipalities, which legally defines each community's responsibilities for financing, building, and operating the proposed treatment works.

Discussion:

As a prerequisite to Step 3 grant award, an executed intermunicipal service agreement must be submitted by the grant applicant for projects serving two or more municipalities. The agreement or other legally binding instrument describes, in detail, the responsibilities of each community for financing, building, and operating the project. At a minimum, the details must include the basis upon which costs are allocated, the formula by which costs are distributed, and the manner in which the cost allocation system will be administered.

Other provisions of the agreement may include the frequency and basis for periodic revision to proportionate costs, methods for measuring flows or sewage strength, allocation of reserve capacity, enactment and enforcement of sewer use ordinances, implementation of the user charge system, implementation of sewer system rehabilitation where applicable, conditions under which the agreement may be changed, and procedures for resolving intermunicipal disputes. The intermunicipal service agreement therefore must include sufficient detail to form the basis for project implementation and a long range working relationship betweeen the communities.

The requirements for an intermunicipal service agreement may be waived by the reviewing agency if certain conditions, described below, are met. However, reviewing agencies should waive these requirements with great care, since the undertaking of a substantially increased role or financial burden has frequently caused a strain in the relationship between a grantee and a subscriber community. In the absence of an intermunicipal service agreement, such a strain could seriously impair the financial and institutional support for the wastewater treatment facility.

Review Procedures:

1. An approvable intermunicipal service agreement must include the following provisions:

   a. the basis upon which costs are allocated, including the value of existing facilities, value of land, periodic capital requirements for expansion, and costs for OM&R and administration;

   b. the formula by which costs are allocated, based on such factors as quantity, strength, and rate of flow; and

   c. the manner in which the cost allocation system will be administered (e.g., cost accounting records, management systems).

2. The requirements for an intermunicipal service agreement may be waived by the reviewing agency if the grant applicant can demonstrate:

   a. that such an agreement is already in place, in which case a copy of the agreement must be submitted and reviewed; or

   b. evidence of:

      i. historic service relationships for water supply, wastewater, or other services between affected communities regardless of the existence of formal agreements, and

      ii. financial strength of the grant applicant which is adequate to continue the project even if the subscriber community which lacks an intermunicipal agreement fails or ceases to participate in the project.

Re: 40 CFR 35.2104(b), 35.2107: EPA final policy "Financial and Management Capability for Construction, Operation and Maintenance of Publicly Owned Wastewater Treatment Systems," 49 FR 6254 through 6258 (February 17, 1984)

I. INDUSTRIAL WASTES AND FEDERAL FACILITIES

Purpose:

Insure that grant funds are not utilized to construct a project or portion thereof for the transport and treatment of industrial wastes or wastes from Federal facilities unless regulatory limitations are satisfied.

Discussion:

During the review of the plans and specifications, it is necessary to insure that the capacity for the treatment works does not include industrial wastes nor wastes from Federal facilities unless specific conditions are satisfied. Grant assistance may be awarded only when a project is included in a complete waste treatment system, and the principal purpose of both the project and the system is the treatment of domestic wastewater of the entire community, area, region, or district concerned. Where industries will discharge wastes to a project, the significant industrial users and all industries intending to increase their flows or relocate in the area must submit "letters of intent" during facilities planning, documenting capacity needs and characteristics for existing and projected flows.

Since Federal law prohibits the use of EPA funds to support the operations of other Federal agencies, the cost of constructing significant treatment capacity for the use of other Federal agencies must be avoided.

Review Procedures:

During review of the plans and specifications, identify those process units or portions of capacity of the project which are attributable to the transport and treatment of industrial wastes. This information will be utilized in determining allowable project costs, which must not include:

1. costs of interceptors or collector sewers or other facilities constructed exclusively or almost exclusively to serve industrial users; and

2. costs for control or removal of pollutants in wastewater introduced by industrial users, unless the grant applicant is also required to remove such pollutants from nonindustrial users.

Similarly, the process units or portions of capacity of a project attributable to the transport and treatment of wastes from a Federal facility must be identified during the review of the plans and specifications. This information also will be used in determining allowable costs of the project. Grant assistance will not include costs to transport and treat wastes from a Federal facility if the wastes constitute more than 250,000 gallons per day or five percent of the design flow, whichever is less. The grant applicant should obtain funds for these costs directly from the Federal facility which causes these limitations to be exceeded.

Re: 40 CFR 35.2030(b)(3)(ii), 35.2125, 35.2127

J. DESIGN ACCEPTANCE

Purpose and Discussion:

After review of the contract documents, including plans and specifications and other required documents, the grant applicant should be notified in writing that specific items have been accepted. In no instance should the grantee be informed that the plans and specifications have been "approved," except at the time of grant offer, since the CWA provides that such approval constitutes a contractual obligation of EPA to financially assist construction of the project.

In addition, it will be beneficial to advise the grant applicant of other documents or actions necessary as part of the grant application process. The procedure below suggests items which should be communicated to the grant applicant.

Procedure:

1. Plans and Specifications

In the letter to the grant applicant accepting plans and specifications, include language which conveys the following:

a. Plan and specification acceptance does not constitute a commitment for grant award.

b. Acceptance of plans and specifications by the reviewing agency does not relieve the grantee and the design engineer of their legal liability for the adequacy of the design.

c. The review of the plans and specifications is for administrative purposes only, to assess the likelihood that the project will achieve its wastewater treatment purposes. The structural, mechanical, and electrical aspects of the plans and specifications are not reviewed in detail.

d. Contract documents are subject to regulations in effect at the time of grant award, and may require revision or updating (e.g., wage rate determination).

e. Identification of project performance standards against which performance will be measured.

f. Eligible capacity of treatment facilities is limited to the capacity required to serve existing needs (i.e., needs on the date of grant award), except for interceptor segments for which the first segment was awarded a grant before December 29, 1981.

Re: 40 CFR 35.2050

2. Preparation for Grant Application

In the letter to the grant applicant accepting items discussed in Sections D through H above (e.g., UC system, SUO, etc.), it will be beneficial to briefly review the required items for a grant application (particularly the limitations on award) in Sections VI.C through VI.J, and identify those which are applicable to the specific project. These items should be brought to the attention of the applicant in order to preclude delays in processing the application. Experience has shown that the following items have caused undue delay and are generally worthy of special note:

a. Reassessment of financial capability based on revised cost estimates after completion of construction drawings and specifications.

b. Method and timing of raising local shares of project costs to insure that all construction subagreements are awarded within 12 months after grant award.

c. Intermunicipal agreements.

d. Acquisition of land, rights of way, and easements.

e. MBE/WBE participation requirements.

3. No Future Grant

Where a project is unlikely to receive grant assistance in the near future, the letter to the applicant should so indicate. Comments concerning deficiencies in the plans, specifications, or other items discussed in this Chapter should be limited to those which will be useful to the municipality if the project is constructed without Federal funds. Where appropriate, the project should be prepared for closeout (see Section VIII.B).

CHAPTER VI

GRANT PROCESSING

A. INTRODUCTION

B. APPLICATION CONTENTS

C. APPLICATION REVIEW

D. LIMITATIONS ON AWARD

E. ADDITIONAL CONSIDERATIONS FOR AWARD

F. STEP 2+3 GRANTS

G. COMBINED SEWER OVERFLOW GRANTS

H. LAND ACQUISITION GRANTS

I. INNOVATIVE OR ALTERNATIVE TECHNOLOGY FIELD TESTING GRANTS

J. INNOVATIVE OR ALTERNATIVE TECHNOLOGY MODIFICATION OR REPLACEMENT GRANTS

K. GRANTS TO STATES FOR ADVANCES OF ALLOWANCE

L. FEDERAL GRANT SHARE

M. GRANT AWARD PROCEDURES

A. INTRODUCTION

This chapter describes the documents which constitute a Step 3 grant application package, the review procedures for each document, and the limitations which must be satisfied before grant award. Later sections describe Step 2+3 and other special purpose grants and the limitations which must be satisfied before these grants can be awarded. The final sections discuss the methodology for establishing the EPA grant amount and the procedures associated with the award of a grant.

Section B, Application Contents, lists those items specifically required by the regulations for a Step 3 grant application.

Section C, Application Review, describes the review of the basic documents which constitute a Step 3 grant application. It does not include limitations on award.

Section D, Limitations on Award, describes those limitations, specifically required by the regulations, which must be satisfied before grant award. This section also discusses phased and segmented projects and limitations on the eligibility of reserve capacity.

Section E, Additional Considerations for Award, describes other considerations which may have to be satisfied before grant award, but which are not listed under the specific heading "Limitations on Award" in the construction grant regulations.

Section F, Step 2+3 Grants, describes the conditions under which a Step 2+3 grant may be awarded.

Section G, Combined Sewer Overflow Grants, describes conditions for the award of grants for both marine and nonmarine combined sewer overflow (CSO) Step 3 projects.

Section H, Land Acquisition Grants, describes conditions and limitations for the award of grants for the acquisition of eligible land.

Section I, Innovative or Alternative Technology Field Testing Grants, describes conditions and limitations for the award of grants for field testing of an innovative or alternative (I/A) technology.

Section J, Innovative or Alternative Technology Modification or Replacement Grants, describes the regulatory requirements which must be satisfied before a 100 percent modification or replacement (M/R) grant may be awarded for a failed I/A technology.

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Section K, Grants to States for Advances of Allowance, describes the procedures for awarding a grant to a State, in order for the State to provide advances of the allowance for facilities planning and/or design to small communities.

Section L, Federal Grant Share, describes the methodology for computing the EPA grant share.

Section M, Grant Award Procedures, describes the procedures for awarding grants and the circumstances under which special grant conditions may be added to the grant agreement.

B. APPLICATION CONTENTS

The basic items to be included in a grant application package for a Step 3 grant are listed below. The requirements for other grants (e.g., Step 2+3, correction of CSO, land acquisition, etc.) are described later in this chapter. The items below are only those submitted by the applicant, and do not include items prepared by the State and submitted to EPA. The items are listed here for quick reference, while the review procedures for each item are described later. The reviewer is to make a preliminary review of the application package to insure that all items are included (some may be contained within the facilities plan), that all applicable portions of the forms are completed, and that the documents are signed by the appropriate officials. If items are missing or an explanation is necessary, the reviewing agency should contact the grant applicant; however, the review is to proceed as far as possible, to minimize delays once corrections are made. A complete application package includes:

1. application (EPA Form 5700-32), including the authorizing resolution and site certificates;

2. facilities plan prepared in accordance with 40 CFR Part 35, Subpart E or Subpart I as appropriate;

3. evidence of adequate public participation based on State or local statutes;

4. notification of any previous advance of allowance or Step 1 or Step 2 grant received;

5. final design drawings (i.e., plans) and specifications;

6. project schedule;

7. evidence of compliance with the applicable limitations on award, including:

    a. advanced treatment review;

    b. conformance with the approved water quality management (WQM) plan;

    c. demonstration and certification of financial and management capability to build, operate, and maintain the proposed project;

    d. certification that the grant applicant has not violated any Federal, State, or local law relating to corrupt practices in connection with facilities planning or design;

    e. indication of the level of participation for minority and women's business enterprises (MBE/WBE) during facilities planning and design (EPA Form 6005-1);

    f. indication of whether or not the grant applicant has used the services of an individual, organization, or unit of government whose name appears on EPA's master list of debarments, suspensions, and voluntary exclusions;

    g. draft plan of operation;

    h. executed intermunicipal service agreements,

    i. environmental review;

    j. value engineering (VE) study;

k. for collector sewers, evidence that either:

  i. the existing collection system being replaced or rehabilitated was not built with Federal funds awarded on or after October 18, 1972, or

  ii. the new collection system will serve a community which was in existence on October 18, 1972;

l. prior approval of any preaward costs;

m. analysis of infiltration and inflow (I/I);

n. user charge (UC) system;

o. sewer use ordinance (SUO);

p. estimate of capacity required to treat current needs, and amount of reserve capacity;

q. amount and nature of industrial and Federal facility wastes to be treated; and

r. assurance of access to individual systems;

8. intergovernmental review;

9. procurement system certification (EPA Form 5700-48) and related documents; and

10. certification of nondiscrimination (EPA Form 4700-4)

Re: 40 CFR Part 7; 40 CFR Part 29; 40 CFR Part 33;
40 CFR 35.2040, 35.2100 through 35.2140

C. APPLICATION REVIEW

1. Application Form

Purpose:

Present information from the grant applicant which is necessary for a grant award. The application also contains a list of assurances from the applicant which are necessary to satisfy statutory requirements. Additional assurances may also be necessary.

Discussion:

The application for grant assistance is submitted by the municipality designated in the approved WQM plan and in the facilities plan for the project. The application must be signed by an official of the municipality, and must be accompanied by a resolution from the municipal governing body, designating this official as the municipality's authorized representative.

Individual items in the application form are reviewed for completeness and accuracy. In reviewing the application form, the reviewer insures that the grant applicant:

- has the legal, institutional, managerial, and financial capability to insure adequate building and operation of the project;
- has the ability to expeditiously initiate procurement and to complete the project in accordance with the project schedule;
- has complied with all applicable statutory and regulatory requirements prior to grant application;
- recognizes and agrees to comply with all other applicable statutory and regulatory requirements during construction and for the useful life of the project; and
- provides documentation or narrative statements supporting the cost estimates included in the application.

During the review of the application form, particular attention should be given to the source of funds for the local share of project costs (e.g., State grants, sale of bonds, other Federal grants which are authorized by statute to be used as non-Federal funds on EPA-funded construction projects, etc.). In addition, title to ineligible land, easements, and rights-of-way must be acquired prior to application, or have progressed to the stage where title or interest in the property may be obtained prior to the award of construction contracts. Problems with local share funding and land acquisition must be satisfactorily resolved prior to grant award in order to prevent costly delays in building the project. Condemnation proceedings, if required, are usually time consuming, and therefore should be undertaken well in advance of submitting the grant application.

Review Procedures:

Review the application form and insure that:

a. the name, project number, description of the project, and grant amount requested agree with the approved State project priority list;

b. the application form is signed by the municipality's authorized representative, and a certified copy of the authorizing resolution is attached;

c. documentation of the applicant's interest in the project site, easements, and rights-of-way is complete; the method of acquisition, including relocation, complies with applicable provisions of 40 CFR Parts 4 and 30; and where land acquisition costs are eligible for grant participation, the Federal interest in the eligible land is protected (sees Sections H.1.f, H.3.b, and M.5.d below);

d. the applicant can obtain funds for the balance of project costs beyond the EPA grant to allow the prompt initiation of construction;

e. the applicant has the legal, institutional, managerial, and financial capabilities to build, operate, and maintain the project (see Section D.4 below);

f. the estimated project costs reasonably compare with the costs in the facilities plan, the financial capability analysis, and presentations to the public;

g. estimated project costs are separated into allowable and unallowable costs, and allowable costs are separated into the following cost categories: construction, administration, legal, fiscal, engineering services (both during construction and for one year after the initiation of operation), contingency allowance, allowance for facilities planning and design, force account, and land acquisition and relocation;

h. the assurances section of the application is attached to the application form; and

i. all items in the application form are either complete or marked "not applicable" (may be abbreviated "N/A").

Re: 40 CFR 30.302, 30.520, 30.535, 35.2040(b), 35.2104, 35.2212

2. Facilities Plan

An approvable facilities plan which satisfies the requirements of 40 CFR Part 35 must accompany the application for grant assistance.

If work on facilities planning was initiated before May 12, 1982 (the effective date of 40 CFR Part 35, Subpart I), the facilities plan must satisfy the requirements of 40 CFR Part 35, Subpart E, rather than Subpart I. If the facilities plan was not prepared under an EPA Step 1 grant, a grant applicant claiming initiation of facilities planning before May 12, 1982 will need to substantiate this claim with appropriate documentation. If facilities planning was initiated prior to May 12, 1982, and meets the requirements of Subpart E, no revisions to the facilities plan will be required solely to satisfy the requirements of Subpart I. However, if considerable time has elapsed since the completion of the facilities plan, this work should be carefully reviewed and updated as necessary, since it may have been based on information (e.g., existing population, flows, costs, etc.) which is no longer valid.

Facilities planning initiated after May 12, 1982 must satisfy the requirements of 40 CFR Part 35, Subpart I, as described in

Chapter IV. Where a facilities plan has been submitted, reviewed, and approved by the reviewing agency prior to grant application, the reviewer is to insure that the project described in the application agrees with the selected plan in the approved facilities plan and that the environmental review has been completed (see Section D.12 below).

_Re_: 40 CFR 35.2040(b)(1)

3. Public Participation

State agencies, when certifying a project to EPA for grant award, are required to certify that adequate public participation was provided by the grant applicant, based on applicable State and local statutes. In making this certification, the State agency should review the application documents, primarily the facilities plan, to verify that this requirement was met (see Section IV.C.7.4 for a full discussion of public participation requirements).

_Re_: 40 CFR 35.2040(b)(2)

4. Notification of Advance of Allowance

Where a State has made an advance of allowance to help a grant applicant prepare a facilities plan and/or design documents, the grant applicant must so indicate in the application, and state the date and amount of the advance and any conditions attached to the advance. Refer to Section III.E for procedures on providing an advance of allowance to a potential grant applicant.

_Re_: 40 CFR 35.2025, 35.2040(b)(3)

5. Plans and Specifications

Approvable contract documents, including plans (i.e., final design drawings) and specifications, must accompany the application for grant assistance. The plans and specifications must comply with all State requirements and EPA regulations and policies, and must be consistent with the facilities plan and any mitigating measures as a result of the project's environmental review (see Sections IV.C.7.3 and IV.D).

Design work initiated after May 12, 1982 must satisfy the requirements of 40 CFR Part 35, Subpart I, as described in Section V.C. Where the plans and specifications have been submitted, reviewed, and accepted (i.e., found to be approvable) by the reviewing agency prior to grant application, the reviewer is to verify that the project described in the application agrees with the previously approved plans and specifications.

If the design work was initiated before May 12, 1982 (the effective date of 40 CFR Part 35, Subpart I), the design must satisfy the requirements of 40 CFR Part 35, Subpart E, rather than Subpart I. If the design work was not accomplished under a Step 2 grant (or in rare cases, a Step 2+3 grant which was terminated prior to the initiation of construction), a grant applicant claiming initiation of design work before May 12, 1982, will need to substantiate this claim with appropriate documentation. If design work was initiated prior to May 12, 1982, and meets the requirements of Subpart E, no revisions to the design work will be required solely to satisfy the requirements of Subpart I. However, if considerable time has elapsed since the completion of the design work, this work should be carefully reviewed and updated as necessary, since it may be based on information (e.g., site conditions, availability of construction materials and labor, etc.) which is no longer valid.

In all cases, a current wage rate determination, current labor standards provisions, and all current procurement requirements must be incorporated into the contract documents.

Re: 40 CFR Part 33; 40 CFR 35.2040(b)(5)

6. Project Schedule

Purpose:

Set forth a timetable for key project events, provide for the timely completion of the project, and insure compliance with permit and compliance schedules, court orders, and State enforcement orders.

Discussion:

A project schedule is an important part of the grant application. It is to be reviewed carefully to verify that the grant applicant has anticipated all key project events, including procurement actions, construction initiation and completion, implementation of the plan of operation, startup, and engineering supervision during the first year of operation. Since the date of grant award is not known at the time the grant applicant prepares the schedule, the timetable may be expressed in terms of the number of weeks from the date of grant award.

The project schedule must be carefully reviewed for reasonableness, and may require review and coordination with other sections within the State agency, EPA, or other Federal agencies (e.g., National Pollutant Discharge Elimination System (NPDES) permit section, U.S. Army Corps of Engineers (COE), U.S. Fish and Wildlife Service, etc.). The project schedule forms a part of the grant agreement, and significant changes in the schedule require a formal grant amendment.

Review Procedures:

Review the project schedule to insure that:

a. the schedule includes key project events (e.g., procurement, initiation of construction, project completion, startup, etc.), and that the timetable is reasonable, considering the size and complexity of the project;

b. the schedule agrees with other regulatory compliance schedules (e.g., NPDES permits), court orders, and State enforcement orders; and

c. the schedule is coordinated, as appropriate, with the schedule in the draft plan of operation.

Re: 40 CFR 35.2040(b)(6), 35.2204(b)(3)

D. LIMITATIONS ON AWARD

The following sections describe regulatory limitations to grant award. At the time of grant application, the grant applicant must provide evidence of compliance with the applicable limitations described below. The documentation supplied by the grant applicant forms a part of the application package.

1. Advanced Treatment

Projects which propose advanced treatment are subject to a special EPA Regional or Headquarters review and approval prior to grant award. Ideally, this review will have taken place during facilities planning, or at least prior to the initiation of design. Refer to Section IV. E.1 for specific details concerning the advanced treatment review. At the time of the application review, insure that the proposed project and supporting documents agree with the results of the advanced treatment review.

Re: 40 CFR 35.2101

2. Water Quality Management Plans

The proposed project must be consistent with the approved elements of the applicable WQM plan approved under Section 208 or 303(e) of the Clean Water Act (CWA). The grant applicant must be the wastewater management agency designated in the WQM plan. Refer to Section IV.B.3 for specific details.

Re: 40 CFR 35.2023, 35.2030, 35.2102

3. Priority Determination

Each State annually prepares a State project priority list based on the State's approved priority system. To be eligible for a grant, a project must be listed on the project priority list and must be within the fundable range for the State's current allotment.

At the time of the application review, insure that the scope of the proposed project and the amount of the grant request agree with the corresponding information on the project priority list. All States have established internal processing procedures for insuring that the funds needed for grant award will not cause the State's allotment to be exceeded, and that the use of reserve funds (e.g., I/A technologies, alternative systems for small communities, etc.) is properly noted and recorded. These procedures should be followed. Refer to Section II.E.3 for a more complete discussion of the State priority system and project priority list.

Re: 40 CFR 35.2015, 35.2103

4. Financial and Managerial Capability

Purpose:

Insure that the grant applicant agrees to pay the non-Federal project costs, and has the legal, institutional, managerial, and financial capability to insure the adequate building and operation of the project.

Discussion:

By signing the application and the grant agreement, the applicant agrees to pay the non-Federal share of project costs if a grant is offered. If, however, after review of the application package, the reviewing agency determines that the grant offered will be significantly lower than the grant requested, it may be advisable to contact the grant applicant and confirm that the grant applicant agrees to pay the increased non-Federal share. It may also be necessary to reassess the applicant's financial capability (see below).

The grant applicant is required to demonstrate its legal, institutional, managerial, and financial capability to insure the adequate building and operation of the treatment works throughout the entire area to be serviced by the applicant. As part of the grant application package, the grant applicant certifies that it has this capability and has analyzed the local share of the estimated project cost, including the financial impact on each community and the residents of the service area, and finds it to be affordable. The reviewing agency must, however, be satisfied that the application and supporting documents do in fact demonstrate the applicant's capability.

The principal information necessary to demonstrate the applicant's financial and managerial capability is contained in the responses to five basic questions contained in EPA's "Financial and Management Capability" policy statement. To assist grant applicants in answering these questions, EPA has prepared a sample format which suggests one method for displaying responses to the questions. The format, entitled

"Wastewater Facilities Financial Information Sheet," is included as Attachment A to the policy statement. Additional guidance is provided to the applicant in a publication entitled "Financial Capability Guidebook." While the five basic questions must be answered, both the information sheet and the guidebook are only guidance, and States are encouraged to modify them according to the individual State's needs.

Other documents submitted by the grant applicant will also provide evidence of the applicant's financial and managerial capability. In the case of a project serving more than one municipality, the executed intermunicipal service agreement (see Section V.H) will be an indication of the institutional and financial obligations of each participating municipality. Additionally, the draft plan of operation (see Section V.G) will demonstrate that the applicant has considered the financial and managerial needs, including a staffing plan and budget, for the operation of the facility. The UC system (see Section V.E) will provide further evidence that the applicant will be able to collect adequate revenues for operation, maintenance, and replacement (OM&R). Finally, the SUO (see Section V.F) will demonstrate that the grant applicant has considered the problems resulting from extraneous or nonresidential wastes, and has the legal authority to prevent or correct such problems.

The initial demonstration of financial and managerial capability should have taken place either during or at the time of completion of facilities planning. At the time of grant application, however, it may be necessary to reevaluate this information and request that the grant applicant update some of the information to reflect current conditions. Such an update, combined with a review of the entire application package (with particular emphasis placed on the items cited above), will collectively allow the reviewing agency to determine whether or not the grant applicant has the financial and managerial capability to finance, build, and operate the proposed project successfully.

Review Procedures:

Review the application documents to insure that the grant applicant has agreed to pay the non-Federal share of project costs. The authorized representative's signature on the application form will usually satisfy this requirement. However, more specific assurances should be required from an applicant which has previously failed to provide the non-Federal share in a timely manner, or when there are other reasons to suspect that the applicant may not be able to pay the non-Federal share.

Review the applicant's demonstration that it has the legal, institutional, managerial, and financial capability to adequately build and operate the treatment works. Again, more specific assurances should be required from an applicant which has previously failed to adequately build and operate a treatment works or other construction project, or when there are other reasons to suspect that the grantee lacks the required capability.

Review the applicant's answers to the five basic questions contained in the "Financial and Management Capability" policy statement. These answers, combined with the information in the intermunicipal service agreement, draft plan of operation, UC system, and SUO, must demonstrate the applicant's financial and managerial capability.

The reviewing agency should have developed screening procedures for identifying applicants whose projects need greater attention to satisfy the above requirements (e.g., based on high cost per user, the use of unusually complex technology, etc.), and should not approve applications which do not adequately demonstrate that the project can be successfully financed, constructed, and operated. Where an adequate demonstration has not been made, the reviewing agency should provide advice to the applicant on both the technical and financial aspects of the proposed project, in order to help the applicant improve its capabilities or decrease the complexities of the project

Re: 40 CFR 35.2104; EPA final policy on "Financial and Management Capability for Construction, Operation and Maintenance of Publicly Owned Wastewater Treatment Systems," 49 FR 6254 through 6258 (February 17, 1984); EPA publication, "Financial Capability Guidebook," March 1984

5. Utilization of Small, Minority, Women's, and Labor Surplus Area Businesses

In order to increase the utilization of small, minority, women's, and surplus area businesses during facilities planning and design, it is EPA's policy to encourage potential grant applicants to adopt procurement procedures which, at a minimum, include the six affirmative steps in EPA's procurement regulations (see Section V.C.1.w) for all activities of their construction program.

At the time of grant application, the grant applicant is required to indicate to the reviewing agency the level of MBE/WBE participation in facilities planning and design by completing EPA Form 6005-1. This information will be used by EPA to meet its obligation to report MBE/WBE participation in the construction grants program.

Re: 40 CFR 33.240, 35.2104(d)

6. Unlawful Practices

The grant applicant is required to certify to the reviewing agency that it has not violated any Federal, State, or local law pertaining to fraud, bribery, graft, kickbacks, collusion, conflict of interest, or other unlawful or corrupt practices in connection with facilities planning or design work for the wastewater treatment project. This certification will normally be in the form of a letter signed by the authorized representative.

7. Debarment and Suspension

Purpose:

Determine if an individual, organization, or unit of government which is listed on EPA's master list of debarments, suspensions, and voluntary exclusions has performed facilities planning or design work for the grant applicant, and if so, what remedial action may be appropriate on the part of the State agency or EPA.

Discussion:

It is EPA policy to limit financial assistance and grant subagreements to participants which properly use Federal funds, and to deny participation in its programs to those who have been debarred or suspended in accordance with 40 CFR Part 32. A grant applicant is required to indicate whether it has used the services of an individual, organization, or unit of government, which is listed in EPA's master list, to perform facilities planning or design work (the master list is printed in the Federal Register (FR) and updated quarterly). If the grant applicant responds affirmatively, the reviewing agency will closely examine the facilities plan and the design work to determine whether to award a grant. EPA will also determine whether the grant applicant should be found non-responsible and therefore not eligible for a grant, and whether the grant applicant should be debarred or suspended.

Review Procedures:

Review the application or separate submission to determine:

a. whether the grant applicant has used the services of an individual, organization, or unit of government, which is on EPA's master list of debarments and suspensions for facilities planning and design work; and

b. if the grant applicant answers affirmatively, determine whether to award a grant or whether to recommend inclusion of the grant applicant on the master list.

Re: 40 CFR 30.301(d), 32.400, 32.500, 35.2105

8. Plan of Operation

A draft plan of operation is part of the application package. The draft plan is to address the development of a plan to provide adequate wastewater treatment during construction, an operation and maintenance (O&M) manual, an emergency operating program, personnel training, an adequate budget consistent with the UC system, operator reports, laboratory testing capability, and an O&M program for the complete waste treatment system of which the project is a part. The draft plan may be in the form of a descriptive chronological schedule which provides a timetable for the preparation and submission of the required documents and for actions to be taken by the grantee during construction. Refer to Section V.G for a more complete discussion.

Re: 40 CFR 35.2106

9. Intermunicipal Service Agreement

An executed intermunicipal service agreement is to accompany the grant application for projects which will serve more than one municipality. At a minimum, the agreement must include the following information:

a. the basis upon which costs are allocated,

b. the formula by which costs are allocated, and

c. the manner in which the cost allocation system will be administered.

In order to prevent costly delays in building the project (due to a lack of funds to pay the grantee's non-Federal share), and later in implementing necessary UC increases, the agreement should include provisions for rapidly resolving disputes between the grantee and a subscriber community. The intermunicipal service agreement may also serve as the legal document which commits each participating municipality to developing, enacting, and enforcing a UC system, a SUO and if required, a pretreatment program. The intermunicipal service agreement will provide partial evidence concerning the grant applicant's legal, financial, institutional, and managerial capability. See Item 4 above, and refer to Section V.H for a more complete discussion.

Re: 40 CFR 35.2107

10. Phased or Segmented Treatment Works

Purpose:

Provide grants to build a phase or segment of a treatment works where such phasing or segmenting is justified, and where specific regulatory conditions have been satisfied.

Discussion:

EPA regulations do not make a distinction between a treatment works phase or segment. In practice, however, phasing is the term used where an entire treatment works construction subagreement is awarded to the selected contractor (e.g., the low bidder for a formally advertised procurement), but the contractor is only authorized to proceed to construction on specific phases of the treatment works. This practice has been used on a limited number of projects where building took several years, and funding for the entire treatment works was not available from a single year's allotment. While this practice is not prohibited by EPA regulations, the inherent potential problems are such that it is discouraged and, where proposed, should be very carefully reviewed, especially with regard to the applicant's financial capability to successfully build the entire project.

Segmenting of projects is a more common practice, which involves the building of the complete treatment works in segments, over a period of time. The complete treatment works is described in a facilities plan, but a separate grant agreement/amendment is issued, and a separate subagreement is awarded, to build each segment.

Grants for phased or segmented treatment works may be awarded provided that one or more of the conditions described in the review procedures below are satisfied. In addition, the grantee must agree to make the treatment works operational, in accordance with a schedule which is acceptable to the reviewing agency, whether or not future grant funding is available.

In "grandfathering" phased or segmented projects, problems often arise in establishing allowable reserve capacity, and in determining the initial and future Federal grant share, including grant increases, where a Governor has elected to provide a uniform lower Federal share.

The review procedures below describe how these problems are resolved and suggest the order in which the review should proceed.

Finally, where a project involves more than two phases or segments, it is EPA policy that subsequent phases or segments be built in the sequence that will first make previously funded phases or segments operational and in compliance with the enforceable requirements of the Act, before other phases or segments are funded. For example, where an interceptor segment has been built, the next segments to be funded will be those which make the interceptor operational. A segment of a different interceptor would not be funded until this first interceptor is operational. Individual phases or segments, however, do not in and of themselves have to result in compliance with the enforceable requirements of the Act, provided that the grantee agrees to complete the treatment works, as described in the facilities plan, regardless of the availability of future Federal funding.

Review Procedures:

In reviewing applications for phased or segmented treatment works, care must be exercised that the conditions and limitations described below are satisfied.

a. Conditions

One or more of the following conditions must be in existance before an award of grant assistance can be made for a phased or segmented treatment works:

i. the Federal share of the cost of building the entire treatment works would require a disproportionate share of the State's annual allotment relative to other needs, or would require a major portion of the State's annual allotment;

ii. the period to complete the building of the treatment works will cover three years or more; or,

iii. phasing or segmenting is necessary to meet the requirements of a Federal or State court order.

The first condition should be verified by reviewing the State's project priority system and list; the second by reviewing the project schedule, and the third by reviewing appropriate court order, which usually can be obtained from the reviewing agency's compliance group.

b. Grantee Commitment

The grantee must agree, in writing, to make the treatment works, of which the phase or segment is a part, operational and in compliance with the enforceable requirements of the CWA, according to a schedule which is acceptable to the reviewing agency, regardless of whether grant funding is available for the remaining phases or segments. Prior to awarding a grant, the reviewing agency should contact the grant applicant to insure that it understands and agrees to this commitment. If a grant is awarded, compliance with this commitment is to be included as a grant condition in the grant agreement/amendment (see Section N.5 below).

c. Reserve Capacity

This discussion of reserve capacity is limited to phased or segmented treatment works:

i. Interceptor Awarded a Step 3 Grant Before December 29, 1981

Future grants for remaining interceptor segments, which are included in the approved facilities plan, may be awarded with planned reserve capacity for as much as 40 years.

ii. Treatment Plant and/or Interceptor Awarded a Step 3 Grant Before October 1, 1984

Future grants for any remaining segments included in the approved facilities plan may be awarded with planned reserve capability for as much as 20 years.

iii. Treatment Plant and/or Interceptor Awarded a Step 3 Grant After September 30, 1984

Where a previous grant was not awarded as described in Item i or Item ii above, no reserve capacity will be eligible for grant assistance. Eligible costs will be limited to the capacity necessary to serve existing needs on the date of grant approval. Refer to Item 18 below for a method of establishing existing needs.

d. Federal Share

This discussion of the Federal share is limited to phased or segmented treatment works, and does not include provisions for I/A projects. Under the provisions of the 1981 CWA amendments, the Governor of a State, with EPA approval, may uniformly lower the Federal grant share for all categories of projects. After approval by EPA, the lower Federal grant share will prevail until revoked by the Governor. Where this option has been exercised, the Federal grant share for phased or segmented treatment works must be at the percentage prevailing at the time of grant award for each subsequent phase or segment (i.e., succeeding phases or segments of a treatment works may have Federal grant percentages which differ from that of the initial phase or segment). The Federal share is based on the total allowable Step 3 costs, plus the allowance for facilities planning and/or design (if applicable), and shall be at the percentages indicated below:

i. Before October 1, 1984

The Federal grant share is 75 percent, or the lower uniform rate if set by the Governor.

ii. After September 30, 1984

The Federal grant share is 55 percent, or the lower uniform rate if set by the Governor, except that the Federal grant share is 75 percent, or the lower uniform rate which existed at the time of the Step 3 grant award for the initial phase or segment, if set by the Governor, provided that:

- the treatment works being phased or segmented is described in a facilities plan which was approved by the reviewing agency before October 1, 1984;
- the Step 3 grant for the initial phase or segment was awarded before October 1, 1984;
- the phase or segment is a sequential phase or segment of a primary, secondary, or advanced treatment facility or its interceptors, or I/I correction; and
- the phase or segment is necessary to:
  - make a previously funded phase or segment operational and in compliance with the enforceable requirements of the CWA, or
  - complete the treatment works, provided that all previously funded phases or segments are operational and in compliance with the enforceable requirements of the CWA.

Re: 40 CFR 35.2108, 35.2123, 35.2152(a) and (c)

11. Revised Water Quality Standards

The 1981 CWA amendments require each State to review and revise, as appropriate, its water quality standards by December 29, 1984. After that date, no construction grants can be awarded for projects which discharge into stream segments for which the State has failed to review and revise, as appropriate, water quality standards within the previous three years.

While the responsibility for reviewing and revising water quality standards generally does not reside with the construction grants program staff, the project reviewer should be aware of the status of this review as it relates to a particular project and the stream segment into which it will discharge.

After December 29, 1984, insure that no grant is awarded unless the State has reviewed and revised, as appropriate, its water quality standards within the last three years. This limitation on award is satisfied if:

a. water quality standards for the entire State, or for the particular stream segment into which the project will discharge, have been reviewed and revised, as appropriate, within the last three years and approved by EPA; or

b. the State agency, in good faith, has submitted to EPA the results of its review, with appropriate revisions, but EPA has failed to act on them within 120 days of receipt.

Re: 40 CFR 35.2111; 40 CFR Part 131

12. Environmental Review

A facilities plan, which is a part of the grant application package, is subject to an environmental review in accordance with the EPA regulations implementing the National Environmental Policy Act (NEPA). The environmental review may result in:

a. a categorical exclusion from further environmental review;

b. a finding of no significant impact (FONSI); or

c. the need to prepare an environmental impact statement (EIS).

The environmental review is most often performed prior to the initiation of design, and the grant applicant should have been informed of the need for the review to be performed at that time, to prevent subsequent delays in the award of grant assistance. At the time of application review, insure that the environmental review has been completed, and that the project described in the grant application reflects the conclusions of, and is consistent with, the results of the environmental review. In the absence of a previous environmental review, and in the case of significant changes to the project since the previous environmental review, the proposed project must be reviewed in accordance with requirements described in Section IV.D.

Re: 40 CFR Part 6; 40 CFR 35.2113

13. Value Engineering

If the proposed project has not received a Step 2 grant, and if the total estimated cost of building the treatment works (including sewers) is more than $10 million, the grant applicant must have conducted a VE study, and the recommendations of the VE study must have been implemented by the applicant to the maximum extent feasible. Projects which were awarded a Step 2 grant are subject to the regulations which were in effect at the time of grant award. Refer to Section V.D for a complete discussion of value engineering.

Re: 40 CFR 35.926, 35.2114

14. Collection System

Purpose:

Insure that grant assistance is awarded only for collection system projects which are eligible for grant assistance and which satisfy the date and resident population limitations.

Discussion:

After September 30, 1984, projects involving new collector sewers and appurtenances (other than small diameter I/A sewers), and major sewer system rehabilitation (for reasons other than I/I correction), are not eligible for grant assistance unless the Governor elects to use a specific portion of the State's annual allotment for such project categories (see Section II.E.3). If this option is exercised by the State, these projects are subject to additional preaward limitations.

The review procedures below address each project category and limitations separately. However, many State/EPA delegation agreements include specific details or additional criteria concerning documentation and justification for new sewers. The specific details may include documentation of septic system failures by survey questionnaire or house-by-house surveys, minimum number of septic system failures on a block-by-block basis for determining eligibility, continuity of eligible collection lines, etc. Where delegation agreements include this type of detail and where the criteria or procedures do not conflict with the grant regulations, they are to be followed.

Review Procedures:

The reviewer must first verify that the project has been correctly included on the State's project priority list. New collector sewers and major sewer system rehabilitation are two categories of projects whose eligibility for grant assistance was eliminated after September 30, 1984. Such projects may nevertheless be included in the State's project priority list under certain conditions. See Section II.E.3 for a complete discussion of these conditions.

These procedures do not address the replacement of failed I/A collection sewers, and are limited to the regulatory requirements for determining the eligibility of other (non-I/A) collection systems. After September 30, 1984, collection system projects are eligible for grant assistance provided that:

a. the project is for the replacement or major rehabilitation of an existing collection system which was not built with Federal funds awarded on or after October 18, 1972, and is necessary to the integrity and performance of the complete waste treatment system; or,

b. the project is for a new collection system which is cost effective and will serve a community in existence on October 18, 1972, and:

    i. the community has sufficient existing or planned capacity to treat the collected wastes;

    ii. the bulk (generally two thirds) of the expected flow (i.e., the flow from existing plus future residential users) will be from the resident population which existed on October 18, 1972;

    iii. the collection and trunk sewers are subject to the same limitations on reserve capacity as interceptor sewers (see Item 18 below), except where minimum diameters (generally 8 inches) are required by State design standards; and

iv. the grantee provides assurances that if grant assistance is awarded, the existing population will connect to the collection system within a reasonable time (as determined by the reviewing agency) after project completion.

Re: 40 CFR 35.2116

15. Preaward Costs

Purpose:

Provide grant assistance for the cost of work which was accomplished prior to the date of grant award, if such work is normally accomplished after the award of a Step 3 grant, only if such work has been approved in advance by the reviewing agency.

Discussion:

Where a potential grant applicant requests approval of preliminary work normally accomplished after the award of a Step 2+3 or a Step 3 grant, approval may be given by the reviewing agency only in an emergency or an instance where delay could result in a significant cost increase, and only after completion of the environmental review (see Item 12 above). Examples of the types of preliminary Step 3 3 work which may be approved are:

a. procurement of major equipment requiring long lead times;

b. field testing of I/A technologies (see Section I below);

c. minor sewer rehabilitation;

d. acquisition of eligible land or of an option for the purchase of eligible land (see Section H below); and

e. advance building of minor portions of treatment works.

Review Procedures:

Where the grant application requests EPA participation in the cost of preaward work which is normally accomplished after the award of a Step 3 grant, insure that:

- prior written approval by the reviewing agency has been given;
- the work is eligible for grant participation; and
- associated procurement actions satisfy the requirements of 40 CFR Part 33, or in the case of acquisition of eligible real property, 40 CFR Part 4.

Where approval of preaward costs is given by the reviewing agency, the potential grant applicant should be advised in writing that: approval is not an actual nor implied commitment of grant assistance (i.e., that the applicant proceeds at its own risk);, and that if a grant is awarded, this preaward work will be eligible only if it was procured in accordance with 40 CFR Part 33 for services, equipment, or supplies, or 40 CFR Parts 4 and 30 for the acquisition of real property.

This limitation on preaward costs applies equally to Step 2+3 and Step 3 grants, but concerns only work which is normally accomplished after the award of a Step 3 grant. Work which is normally accomplished before the award of a Step 3 grant is classified as design-related work, whose cost is not directly eligible for grant assistance, but instead is expected to be defrayed by the allowance for facilities planning and/or design.

Re: 40 CFR 35.2118; 40 CFR Part 35, Subpart I, Appendix A, Paragraph A.2.a, and Appendix B, Paragraph 3

16. Infiltration and Inflow

This limitation on award is applicable only to grant applicants with existing sewer systems. Before grant award, the grant applicant must demonstrate that the existing sewer system is not or will not be subject to excessive I/I.

The analysis of the sewer system to determine the presence of excessive or nonexcessive I/I is performed during the facilities planning and is used to establish present and future flows. If a preliminary investigation indicates the possible presence of excessive I/I, the grant applicant may conduct further investigations, either during facilities planning or concurrent with design. It is recommended that as much work as possible be accomplished during facilities planning, since the results may affect the design.

Where further sewer system evaluation confirms the presence of excessive I/I, the grant applicant will propose a sewer system rehabilitation program and prepare the necessary contract documents, including construction drawings and specifications. During the application review, it is necessary to determine that where needed, a rehabilitation program has been proposed. Refer to Section IV.C.4.3 for a more complete discussion of I/I.

The documents supporting a grant application must demonstrate that:

a. the sewer system discharging into the proposed treatment works is not, or will not be, subject to excessive I/I; and

b. where excessive I/I is present, a program for sewer system rehabilitation has been proposed, and is described in the contract documents, including plans and specifications.

Where total flow, including infiltration, does not significantly exceed 120 gallons per capita per day (gpcd), the grant applicant may propose and the reviewing agency may approve the project without further study. In this case, however, the allowable project cost will be limited to the cost of the treatment works with a capacity of 120 gpcd for the existing residential population.

Re: 40 CFR 35.2030(b)(4), 35.2120; 40 CFR Part 35, Subpart I, Appendix A, Paragraph G

17. User Charge System and Sewer Use Ordinance

A UC system and a proposed or existing SUO must be approved by the reviewing agency before grant award. The UC and SUO need not be enacted as a municipal ordinance by the grant applicant at the time of grant application, but must satisfy the content requirements described in Sections V.E and V.F. The UC system and the OM&R costs contained therein must be consistent with the grant applicant's draft plan of operation (see Item 8 above), and must support the applicant's demonstration of financial and managerial capability (see Item 4 above).

If the applicant has a UC or SUO in effect, the grant application must demonstrate that the UC or SUO meets all EPA requirements and is being enforced

Re 40 CFR 35.2122, 35.2130, 35.2140

18. Reserve Capacity

Purpose:

Insure that grant assistance is awarded after September 30, 1984, only for the wastewater treatment, transportation, and disposal capcity which is required to serve existing needs.

Discussion:

The 1981 CWA amendments restrict grant assistance awarded after September 30, 1984 to the capacity necessary to serve existing needs on the date of grant approval, or on September 30, 1990, whichever is earlier. Two problems arise for proposed projects which include reserve capacity (i.e., capacity not needed to serve existing needs). The first concerns establishing the capacity which represents existing needs on the date of grant award, and the second concerns apportioning costs between allowable and total treatment works capacity. This discussion does not include the allowable reserve capacity for phased or segmented treatment works (see Item 10 above).

In general, a facilities plan will have been prepared one year or more before the estimated date of grant award. In preparing the facilities plan, the grant applicant is required to consider wastewater treatment needs over a 20 year planning period. In so doing, the facilities plan may have estimated wastewater flows for 5 year increments, or may have used a straight line projection between the present (at the time of facilities plan preparation) and the estimated future flow (at the end of the 20 year planning period). In either case, the existing needs on the date of grant award may be estimated by noting the elapsed time between the date used for the "present" flow in the facilities plan and date of grant award. Care must be exercised in using this procedure, however, to insure that the capacity projections are reasonable and are not unduly distorted, either by a large future residential or industrial development, or by a sewer connection or development ban which has reduced or eliminated the projected growth in wastewater volume.

For communities with existing treatment facilities, it will usually be possible for the grant applicant to provide the actual current flow data, based on current records at the treatment plant, adjusted to exclude excessive I/I. Anticipated flows from failing onsite systems may be added to this figure. In the case of communities without an existing centralized treatment plant, existing flow is based on the population presently served by onsite systems which are proposed to be connected to the project. For estimating purposes, a figure of 70 gpcd should be used, plus a reasonable allowance for infiltration. In no case, however, may the anticipated domestic flows exceed 120 gpcd, excluding inflow during storm events (see Section IV.C.4.3). Estimates of existing flow must be based on studies which have been updated to the estimated date of grant award.

Once the capacity required to serve the existing needs has been established, it is necessary to determine a cost ratio, using the estimated building cost of the treatment works necessary to serve the existing needs, divided by the estimated building cost for the proposed project. The preferred method for determining the cost ratio involves the use of the Computer Assisted Procedure for Design and Evaluation of Wastewater Treatment Systems (CAPDET). Using CAPDET, design and process parameters are entered into the program, and the estimated cost of building the project is computed. By using the existing needs and the total design capacity, two cost estimates may be produced. The ratio of the cost estimates is applied to the total project cost to determine the allowable cost.

When using CAPDET, it is important to note that while the cost estimates generated by CAPDET may not agree with the design engineer's cost estimates, the ratio of the two CAPDET cost estimates is reasonably accurate and therefore provides a fair method for determining allowable costs. The cost ratio is used to apportion costs for building the treatment works and other associated allowable costs (i.e., construction, contingency allowance, engineering, legal, fiscal, administrative, future change orders, etc.).

At the present time, CAPDET does not include cost estimates for sewers. The recommended procedure for determining the cost ratio for sewers is identical to that described above, except that cost curves from the EPA publication, "Innovative and Alternative Technology Assessment Manual" (MCD-53) or equivalent curves approved by EPA are to be used.

The limitation on reserve capacity may have an effect on existing Step 1 and Step 2 projects. Grantees may feel that they are entitled to a grant increase because of the necessity to reevaluate their projects due to these limitations. The criteria discussed in Sections VIII.B.3 and 5 are to be used in determining if a grant increase is warranted.

Review Procedures:

a. Grant assistance awarded after September 30, 1984 must be limited to the capacity required to serve existing needs (including existing needs of residential, commercial, industrial, and other users) on the date of grant award, or on September 30, 1990, whichever is earlier. To establish the eligible project cost:

   i. review the facilities plan to determine if population and/or capacity projections are provided over the 20 year planning period, which will allow a reasonable estimate of the capacity required to serve existing needs;

   ii. insure that the required capacity is reasonable, does not include excessive I/I, is supported by letters of intent from significant industrial users, and has not been distorted, subsequent to facilities plan preparation, by events such as lower-than-expected population or industrial growth, sewer connection restrictions, or development bans;

   iii. in the absence of reasonable data from the facilities plan which allows a determination of the capacity required to serve existing needs, request a facilities planning amendment from the grant applicant which, in the case of existing facilities, should be based on current records at the treatment plant adjusted to exclude excessive I/I, and if appropriate, to include anticipated flows from failing onsite systems which will be connected to the proposed project;

   iv. determine a cost ratio, using the estimated building cost for the capacity required to serve the existing needs, divided by the estimated building cost for the total proposed project, with cost estimates from CAPDET or the sewer cost curves;

v. use the cost ratio to compute the total allowable project costs, including building, construction contingency, engineering, legal, fiscal, and administrative;

vi. also use the cost ratio to compute the allowable costs for approved future change orders; and

vii. compute the Federal grant share by multiplying the allowable project cost by the applicable grant percentage (see Section L below).

b. Where the proposed project contains reserve capacity (i.e., capacity beyond that required to serve existing needs), the following provisions apply to all projects, including phased or segmented projects:

  i. All incremental costs for capacity beyond that required to serve existing needs or in the case of phased or segmented projects, beyond that allowed under Item 10 above, shall be paid by the grant applicant (see Item 4 above). This includes change order costs (see Item a.vi above).

  ii. The actual treatment works to be built (i.e., the entire proposed project) must satisfy the NEPA regulations (40 CFR Part 6), as well as all other applicable laws and regulations (see Item 12 above).

  iii. Plans, specifications, and cost estimates for the entire proposed project must be approved by the reviewing agency.

  iv. The grant applicant must assure the reviewing agency that it has assessed the financial impacts of the entire proposed project, and that it has the capability to finance and manage the construction and operation of the facilities (see Item 4 above).

  v. The user charge system must apply to the entire serve area.

vi. The grantee must execute a grant agreement which includes a grant condition which releases the Federal Government from any claim for any of the costs of construction due to the additional capacity (see Section M.5 below).

Re: 40 CFR 35.2030(b)(3)(ii), 35.2123(c) and (d)

19. Industrial and Federal Facilities

Grant assistance is not to include the costs of sewers constructed exclusively or almost exclusively to serve industrial users, nor may the treatment facilities include process units for the removal of pollutants from industrial discharges unless the grant applicant is required to remove such pollutants from nonindustrial discharges. Grant assistance also may not include costs for the transport and treatment of wastes from a Federal facility if the wastes are more than 250,000 gallons per day or constitute over five percent of the design flow, whichever is less. Refer to Section V.I for a complete discussion of industrial and Federal discharges.

For projects which will treat industrial wastes, the grant applicant must submit letters of intent from significant industrial users, and from all industries intending to increase their flows or to relocate in the area. Such letters must document capacity needs and wastewater characteristics for existing and projected flows.

Re: 40 CFR 35.2030(b)(3)(ii), 35.2125, 35.2127

E. ADDITIONAL CONSIDERATIONS FOR AWARD

The items listed below are additional considerations which must be satisfied, where applicable, prior to grant award. Some of the items are considered limitations on award, but are listed separately here because they are not applicable to all projects.

1. Small Alternative Wastewater Systems

A small alternative wastewater system (SAWS) is characterized by onsite treatment and disposal, and/or alternative conveyance systems (i.e., pressure, vacuum, or small diameter gravity sewers). A SAWS project qualifies as an alternative technology, and may therefore receive a higher Federal grant share. A SAWS may be privately or publicly owned, but the responsibility for management and operation of the system must reside with the grant applicant. Where a SAWS is proposed, it is necessary to insure that the grant applicant recognizes and accepts the managerial responsibilities which are unique to these projects.

Review Procedures:

The review procedures below assume that a SAWS was selected as the c[illegible]effective alternative in the facilities plan. Much of the information necessary to satisfy the limitations on award described below may be found in the facilities plan or the applicant's demonstration of financial and managerial capability. The reviewing agency is to insure that a SAWS project satisfies the following conditions:

a. the limitations on award described in Section D above;

b. as an alternative technology, is eligible for an additional Federal grant share of 20 percent, but not more than a total of 75 percent of the allowable costs;

c. must serve communities with a population of 3500 or less, or highly dispersed sections of larger municipalities;

d. may be either a privately owned treatment works serving one or more principal residences (requires habitation by a family or household for at least 51 percent of the year, and does not include second homes or vacation residences) or small commercial establishments (restaurants, hotels, stores, filling stations, recreational facilities, churches, schools, hospitals, or charitable organizations with dry weather wastewater flows less than 25,000 gallons per day), and/or a publicly owned treatment works (POTW);

e. for a privately owned individual system, the facilities plan must demonstrate that the total cost and environmental impact will be less than that of a conventional system;

f. the grant applicant must certify that each principal residence or small commercial establishment, for which grant assistance is requested, was constructed and inhabited or in use on or before December 27, 1977;

g. the application must be on behalf of a number of individual units to be served in the facilities planning area;

h. where privately owned individual systems are included in the project, the grant applicant must certify that public ownership is not feasible; must list the reasons for this, which must be acceptable to the reviewing agency; and must agree to provide access to the systems at all reasonable times for such purposes as inspection, monitoring, building, operation, rehabilitation, and replacement;

i. the grant applicant must certify that the proposed facilities will be properly operated and maintained; and

j. the draft plan of operation must address the development of an adequate O&M program for:

    i. physical inspection of all onsite systems in the planning area at least every 3 years, or more frequently if necessary to insure proper operation;

    ii. pumpouts, renovation, and replacement as needed;

    iii. routine maintenance and servicing of mechanical and electrical components;

    iv. testing of selected existing potable water wells once a year;

    v. additional monitoring of water supply aquifers, if appropriate, where substantial numbers of onsite systems exist; and

vi. a UC system reflective of the system's OM&R costs.

Re: 40 CFR 35.2005(b)(31), (b)(39), and (b)(40), 35.2032(b), 35.2034, 35.2110

2. Marine Discharge Waiver Applicants

Section 301(h) of the CWA allows grant applicants which discharge into marine waters to apply for a waiver from EPA's secondary treatment requirements. The application for the waiver must be accompanied by substantial documentation to support the request. Waiver applications require special reviews and considerations beyond the scope of this Handbook. However, if the marine discharge waiver is approved the project design must include provisions for possible future additions of treatment processes or techniques to meet secondary treatment requirements. Such provisions may include sufficient land for expansion, stubs in piping to allow future connections, arrangement of unit processes or piping to accommodate future processes, etc.

Re: 40 CFR 35.2112; 40 CFR Part 125, Subpart G

3. Innovative or Alternative Technology Reconfirmation

While not specifically required by EPA regulations, the review of the grant application and supporting documents affords an opportunity to reconfirm or revise earlier decisions concerning the classification of a project or project components as I/A technology. In general, a preliminary classification of a project or its components as I/A technology will usually be made on the basis of information contained in the facilities plan. This classification should be confirmed prior to grant award. Refer to Section IV.D.6.9 for a discussion of I/A technology.

4. Pretreatment

A project receiving grant assistance must not include components for the control or removal of pollutants introduced into the treatment works by industrial users, unless the grant applicant is required to remove these same pollutants from wastes introduced by non-industrial users. An approvable SUO must prohibit the introduction of wastewater into the treatment works which contains toxics or other pollutants in amounts or concentrations that endanger public safety or the physical integrity of the treatment works, cause violations of effluent or water quality limitations, or preclude the selection of the cost effective alternative for wastewater treatment and sludge disposal.

Grant applicants who presently treat or anticipate treating industrial wastewaters should have evaluated the quantity and character of the wastes and, where appropriate, have established a pretreatment program which satisfies the requirements of EPA's pretreatment regulations (40 CFR Part 403), and which will insure compliance with the grantee's NPDES or State Pollutant Discharge Elimination System (SPDES) permit. Refer to Section IV.E.2 for a more extensive discussion of pretreatment.

Review Procedures:

At the time of grant application review, insure that:

a. where applicable, the grant applicant has developed a pretreatment program in accordance with 40 CFR Part 403;

b. estimated project costs associated with pretreatment are allowable for grant participation and necessary for implementation of the pretreatment program;

c. the pretreatment program will insure compliance with the grantee's NPDES or SPDES permit.

Re: 40 CFR 35.2125(b)(2), 35.2130; 40 CFR Part 35, Subpart I, Appendix A, Paragraph F

5. Force Account

Purpose:

Allow grantees to perform project work using their own employees under certain circumstances.

Discussion:

While generally not encouraged by EPA, grant applicants may use their own employees or equipment for construction or construction related activities (e.g., resident inspection services). This use of in-house forces is frequently called force account work. When proposed, and where the costs will exceed $25,000, it is necessary for the grantee to obtain prior approval from the reviewing agency. The reviewing agency may approve force account work as an allowable project cost provided the conditions described in the review procedures below are satisfied. There are no restrictions on the use of force account work for facilities planning, design, or design-related work which is accomplished under an allowance (see Section III.D.3.c) rather than a Step 1 or Step 2 grant.

Review Procedures:

a. The reviewing agency may approve force account construction or construction related work provided that:

   i. the grant applicant demonstrates that municipal employees can complete the work competently and more economically than contractors; or

   ii. an emergency circumstance arises which makes the use of force account necessary.

b. Where force account work is approved by the reviewing agency, the grant applicant should be advised that force account costs are subject to audit, and that records or documents supporting such costs must be maintained. Substantiating records must include:

   i. time sheets approved and signed by a responsible supervisor, accounting for all hours worked during the period, showing separately the hours worked on the EPA funded project and on all other activities; and

   ii. documentation of an approved indirect cost rate (see Section IX.F.2.d.ii) where such burden rate is to be applied to force account work.

Re: 40 CFR 30.520

6. Intergovernmental Review

Under 40 CFR Part 29, States are encouraged to establish a State process, which is the framework under which States and local officials carry out intergovernmental review of proposed projects. The State process replaces the clearinghouse review process previously required by Office of Management and Budget (OMB) Circular A-95 (frequently called A-95 review), and allows States to select the EPA programs which will be subject to intergovernmental review.

The regulations governing the establishment of the State process are designed to allow the States considerable flexibility in establishing procedures, while still insuring that proposed projects receive adequate review by concerned or interested parties and agencies, and that these parties and agencies are provided an opportunity to comment on proposed projects. Because the details of the State process will vary from State to State, only general review procedures are described below.

Based on the intergovernmental review regulations and the State process developed for a specific State, determine if the construction grants program is subject to an intergovernmental review, and if so, verify that the grant applicant has followed the specific procedures and requirements of the State process, and that any problems have been satisfactorily resolved.

Re: 40 CFR Part 29; 40 CFR 35.2040(b)(2)

7. Procurement of Professional Services

Procurement of professional services (e.g., engineering, construction management, legal, accounting, land appraisel, etc.) should be undertaken only after EPA reviews the completed "Procurement System Certification" (EPA Form 5700-48). Note that the review of the "Procurement System Certification" may not be delegated to State reviewing agencies. If the grant applicant procures professional services before grant award, the costs associated with the procurement action and any work performed under the subagreement prior to grant award are unallowable for grant participation (see Section IX.B.5.e), unless approved as a preaward cost (see Section D.15 above). However, if this work is classified as facilities planning or design work, it may be defrayed in part by an allowance for facilities planning and/or design (see Section III.E), or may be an eligible cost under an existing Step 1 or Step 2 grant. Preapplication review of the "Procurement System Certification" is encouraged, and is described in Section VII.B.1.

Re: 40 CFR 33.001(g), 33.110

8. General Grant Conditions

Along with the demonstration that the grant applicant has the financial and managerial capability to build and operate the proposed treatment works, the grant applicant is required to demonstrate its ability to comply with 40 CFR Part 30.

Among other things, 40 CFR Part 30 addresses the requirements for a grant application, payments, project management, deviations, etc. At the time of grant application review, particular attention should be given to property management standards and compliance with other Federal laws. Compliance with some Federal laws will be satisfied initially by including the "Labor Standards Provisions for Federally Assisted Construction Contracts" (EPA Form 5720-4) in the contract documents. Compliance with other Federal laws will also be fulfilled initially by the grant applicant's "assurance of compliance" in the grant application form (see Section C.1 above). The review procedures below highlight some of the requirements from the general grant regulations which may require special consideration during application review.

Where applicable, insure that the grant applicant has or will have the ability to fulfill the general grant requirements listed below:

a. property management standards;

Re: 40 CFR 30.530 through 30.537

b. compliance with the Flood Disaster Protection Act (if the proposed project involves construction or property acquisition in a special flood hazard area and if the project is located in a community participating in the National Flood Insurance Program, the grant applicant must purchase flood insurance as a a condition of receiving grant assistance);

Re: 40 CFR 30.600(b)

c. the grant applicant may not propose the performance of any work on the proposed project by a facility on EPA's List of Violating Facilities, which includes facilities which have violated either the Clean Air Act or the CWA;

Re: 40 CFR 30.600(c) and (d)

d. discrimination on the grounds of race, color, national origin, age, sex, and handicap is prohibited, and the grant applicant is required to submit a certification of non-discrimination (EPA Form 4700-4) with the grant application;

Re: 40 CFR 7.8(b), 30.600(d) through (g)

e. compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, whether or not the real property is eligible for grant assistance (see Section VI.H).

Re: 40 CFR 30.600(i)

f. if the proposed project will benefit Indians, compliance with the Indian Self-Determination and Education Assistance Act, which requires that Indians be given preference in training and employment opportunities;

Re: 40 CFR 30.600(j)

g. compliance with the Hatch Act, which requires State and local government employees to comply with restrictions on political activities if their principal employment activities are funded in whole or part by Federal Assistance;

Re: 40 CFR 30.600(k)

h. compliance with the Safe Drinking Water Act, which prohibits EPA grant assistance if the proposed project may contaminate a sole source aquifer which will result in a significant hazard to public health; and

Re: 40 CFR 30.600(l)

i. compliance with the reporting requirements for MBE/WBE utilization (see Sections B.7.E and D.5 above).

Re: 40 CFR 35.2104(d)

F. STEP 2+3 GRANTS

Purpose:

Provide grant assistance for smaller projects (meeting specific size and cost limitations) after completion of facilities planning but prior to the completion of design.

Discussion:

Grant assistance may be provided to a community with a populations of 25,000 or less, for a project with an estimated building cost of $8 million or less, prior to the completion of the design work (i.e., a Step 2+3 grant). The grant is based on the estimated allowable costs, derived from the facilities plan, plus the appropriate allowance for facilities planning and/or design. The procedure assists smaller communities in financing their design costs and provides assurance that grant funds will be available (i.e., funds have been obligated) for building the project, assuming successful completion of the design and the satisfaction of all other requirements.

The review procedures below describe the conditions which must be satisfied before a Step 2+3 grant can be awarded.

Review Procedures:

1. Qualifications

Applicant and project qualifications for Step 2+3 grant award include:

a. the population of the applicant's municipality is 25,000 or less, according to the most recent U.S. Census;

b. the total building cost is estimated to be $8 million or less; and

c. the project is not for a treatment works phase or segment.

2. Application Contents

The application package for a Step 2+3 grant must include:

a. application, using EPA Form 5700-32 (see Section C.1 above);

b. facilities plan (see Section C.2 above);

c. State certification of adequate public participation (see Section C.3 above);

d. notification of any previous advance of allowance or Step 1 grant received (see Section C.4 above);

e. evidence of compliance with all applicable limitations on award described in Section D above, except draft plan of operation, intermunicipal service agreement, UC system, and SUO; and

f. evidence of compliance with all applicable additional considerations for award described in Section E above.

3. Deferred Provisions

During the course of a Step 2+3 project, the grantee is required to submit the following documents to the reviewing agency:

a. prior to initiating action to acquire eligible real property, a plat which shows the legal description of the property to be acquired, a preliminary layout of the distribution and drainage systems, and an explanation of the intended method of acquiring the real property (see Section H below) and

b. before initiating a procurement action for building the project (i.e., advertising for bids):

   i. contract documents, including plans and specification (see Section C.5 above);

   ii. a project schedule (see Section C.6 above);

   iii. a draft plan of operation (see Section D.8 above);

   iv. an executed intermunicipal service agreement (see Section D.9 above);

   v. a UC system (see Section D.17 above); and

   vi. an SUO (see Section D.17 above).

Re: 40 CFR 35.2040(a), 35.2109, 35.2202

G. COMBINED SEWER OVERFLOW GRANTS

Purpose:

Award grants to CSO projects which are designed to restore uses of the receiving waters in priority water quality areas which have been impaired by the impact of CSOs.

Discussion:

The 1981 CWA amendments and the implementing regulations make a distinction between marine CSO and nonmarine CSO projects. The distinction is primarily related to the source of funding for such projects and the corresponding regulatory requirements which must be satisfied prior to grant award. The most significant difference in regulatory requirements, depending on the source of funding, is whether or not the State must provide a special demonstration that the proposed CSO project is necessary to restore impaired uses of the receiving waters.

Procedures:

1. Source of Funds

Three potential funding sources for CSO projects are available:

a. State's Regular Allotment

After September 30, 1984, the Governor may include in the State's priority system a category of projects needed to correct CSOs which impair water uses in priority water quality areas. Such projects require a special demonstration as described in Item 2a below. Funds from the State's regular allotment may be used only for nonmarine CSO projects.

Re: 40 CFR 35.2015(b)(2)(iv), 35.2024

b. Governor's Discretionary Set-aside

After September 30, 1984, up to 20 percent of a State's regular allotment, at the discretion of the Governor, may be used to fund categories of projects which were previously eligible for grant assistance before this date. Among the previous categories of projects is the correction of CSOs, either marine or nonmarine. For CSO projects funded from the

Governor's discretionary set-aside, the State is not required to provide the special demonstration described in Item 2a below. However, this source of CSO funding is subject to certain restrictions, as explained in Section II.E.3.

Re: 40 CFR 35.2015(b)(2)(iii), 35.2024

c. Separate Appropriation for Marine Projects

After September 30, 1982, marine CSO projects may be funded through a separate Congressional appropriation. Unlike other construction grant appropriations, funds to be used for marine CSO projects are not allotted to each State, but instead are administered at EPA headquarters. Hence, proposed projects are subject to a national (rather than State) priority system. Projects awarded grant assistance using the marine CSO fund are to address impaired uses or public health risks in priority water quality areas in marine bays and estuaries caused by the impacts of CSOs. These projects require a special demonstration as described in Item 2c below.

Re: 40 CFR 35.2024(b)

2. Project Requirements

The regulatory provisions which must be satisfied for CSO projects depend on the source of the funds which will be used for providing grant assistance:

a. State's Regular Allotment

After September 30, 1984, nonmarine CSO projects may be awarded grant assistance from the State's regular allotment provided that:

i. the Governor has included this category of projects in the State's priority system;

ii. the specific project is within the fundable range on the State's project priority list;

iii. the grant application includes the information in Section C above, (i.e., facilities plan, plans and specifications, etc.), and satisfies the applicable limitations on award (see Section D above), the applicable additional considerations for award (see Section E above), the EPA procurement requirements (see Sections VII.B through VII.F), and all other applicable wastewater treatment project requirements.

iv. the State has demonstrated to EPA that the water quality goals of the CWA will not be achieved in a priority water quality area without correcting the CSO, and specifically that, at a minimum:

  - significant usage of the water for fishing and swimming will not be possible without the proposed project; and

  - the project will result in substantial restoration of an existing impaired use.

The State may, at its discretion, use the marine CSO guidance (see Item c below) in preparing a demonstration for a nonmarine CSO project, except that this demonstration would address fishing rather than shellfishing;

Re: 40 CFR 35.2015(b)(2)(iv), 35.2024(a)

b. Governor's Discretionary Set-aside

After September 30, 1984, marine or nonmarine CSO projects may be awarded grant assistance from the Governor's discretionary set-aside funds, provided that:

i. the Governor has included this category of projects in the State's priority system (see Item 1.b above);

ii. the specific project is within the fundable range on the State's project priority list;

iii. the grant application includes the information described in Item a.iii above; and

iv. the project falls within the 25 percent limitation on "sewer projects" described in Section II.E.3.

The State is not required to provide a special demonstration of project need beyond that required as a routine part of facilities planning. If the need for the project can be demonstrated as described in Item 2.a.iv above, it would be eligible for funding from the State's regular allotment, and would not be subject to the 25 percent limitation described in Section II.E.3.

Re: 40 CFR 35.2015(b)(2)(iii)

c. Separate Appropriation for Marine Projects

After September 30, 1982, marine CSO projects may be awarded grant assistance from a separate Congressional appropriation. To be eligible for grant assistance, such projects must meet all of the following requirements:

i. Funds must have been appropriated for the marine CSO fund and must be available for obligation.

ii. The project must satisfy the priority criteria established by EPA, which are based on:

- the extent of water use benefits, including swimming and shellfishing, that would result from the project;
- the relationship of water quality improvements to project costs; and
- the national and regional significance of the project.

Re: 40 CFR 35.2024(b)(2)

iii. The State must demonstrate (see the guidance referenced below for a technical discussion of this demonstration) to EPA that the proposed project addresses impaired uses or public health risks in priority water quality areas of marine bays or estuaries which are due to the impacts of the CSO, and specifically that, at a minimum:

- significant usage of the water for shellfishing and swimming will not be possible without the proposed project; and

- the proposed project will result in substantial restoration of an existing impaired use.

Re: 40 CFR 35.2024(b)(2)

iv. The project must satisfy all applicable limitations on award, grant conditions, Federal grant share provisions, and allowable cost provisions, except for:

- allotment and reallotment (see Sections II.E.2 and II.E.4);

- State priority system and project priority list (see Section II.E.3);

- reserves and reallotment of reserves (see Section II.E.4);

- advances of allowance to potential grant applicants (see Sections II.E.4.e, III.D.3.c, III.E, VI.K, and IX.B.8.c);

- review of grant applications and priority determinations (see Sections VI.M.1 through VI.M.3); and

- Step 2+3 projects (see Section VI.F).

Re: 40 CFR 35.2024(b)(4)

v. Two regulatory provisions for marine CSO projects vary slightly from those for other construction grant projects:

  - final plans and specifications may, but need not, accompany the grant application; however, the grant applicant must commit itself to providing them by a date set by the reviewing agency; and

  - if the proposed project is a phase or segment described in the facilities plan, the criteria used to demonstrate the need for the project (see Item ii above) must be applied to the entire facilities plan proposal and to each segment proposed for funding.

  Re: 40 CFR 35.2024(b)(3)

vi. Marine CSO project applications and supporting documents are submitted to the State by the grant applicant. The State reviews the project, prepares the special demonstration described in Item iii above, and submits the project to the EPA Regional Office. The Regional Office determines whether all Federal requirements have been met, completes the environmental review, prepares a statement of regional and national significance, determines the eligibility of the project for consideration of funding, and submits the required information to EPA Headquarters.

vii. Once a year, EPA Headquarters will prepare a priority list, based on the criteria in Item ii above, for proposed marine CSO projects.

viii. On the basis of the priority list described in Item vii above, EPA headquarters will provide obligating authority for grant award to the appropriate EPA Regional Office.

ix. Projects receiving marine CSO grant awards will be administered by EPA Regional Offices or, where delegated, State reviewing agencies.

Re: 40 CFR 35.2024(b), 35.2040(f); EPA publication, "Guidance for the Preparation and Review of Applications, Special Fund for Abatement of Combined Sewer Overflow Pollution in Marine Bays and Estuaries (The Marine CSO Fund)," dated January 1984

H. LAND ACQUISITION GRANTS

Purpose:

Provide grant assistance for the acquisition of real property (i.e., land) which will be an integral part of the treatment process.

Discussion:

During facilities planning, the grant applicant will have evaluated various treatment alternatives, including land application of wastewater or sludge, and selected the cost effective alternative. Land associated with the proposed project may already be owned by the the applicant, may be available for lease or purchase, or may be available for use without payment. This section addresses only the purchase of eligible land and assumes that other land use arrangements (lease, easement acquisition, or use without payment) have been accomplished in accordance with State and local laws. It should be noted, however, that the provisions of 40 CFR Part 4, "Implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970," are applicable to the acquisition of real property for EPA assisted projects whether or not the land so acquired is eligible for grant assistance. Provisions of State and local law are applicable only to the extent that they do not conflict with Federal law (see Section I.D.6). Arrangements for lease, easement, and use without payment need to be reviewed to insure that they are adequate for the successful construction and operation of the project (e.g., that they are not subject to an expiration or revocation which would prevent the continuing operation of the project).

Acquisition of eligible real property may generally be accomplished in one of three ways under the construction grants program:

- as a preaward cost,
- under a grant solely for land acquisition, or
- as a part of the grant for the construction of the project.

In all cases, the provisions of 40 CFR Parts 4 and 30 are applicable, and must be satisfied if the land and possibly the project are to be eligible for grant assistance. 40 CFR Part 4 is separated into two parts:

- requirements applicable when persons, businesses, or farms will be displaced, and
- requirements for the acquisition of real property.

In view of the potentially high costs and legal fees associated with land acquisition, grant applicants and reviewing agencies should use professional personnel experienced in all phases of the acquisition process, including appraisals. The review procedures below address the highlights of the regulatory requirements, but are not a substitute for a detailed review by professional personnel to insure compliance with 40 CFR Part 4. Eligibility of land acquisition and associated costs is discussed in Section IX.F.4, Paragraph D, which should be consulted prior to grant award.

Review Procedures:

1. Grant Application

A grant application which requests funds for the acquisition of real property must include:

a. all applicable information and documents described in Sections C through E above, except that grant applications solely for the acquisition of real property need not include the information described in Item 2 below;

b. a plat which includes the legal description of the property to be acquired;

c. a preliminary layout of the distribution and drainage system;

d. an explanation of the intended method of acquiring the real property in accordance with 40 CFR Parts 4 and 30;

e. a copy of the appraisal report for the property; and

f. assurances that the property will be used only for the purpose for which it is purchased, and that EPA's interest in the property will be adequately reflected and protected in compliance with all recordation or registration requirements of applicable local laws on real property (see Item 3.b and Section M.5 below).

Re: 40 CFR 30.535, 30.600(i), 35.2040(b)

2. Deferred Provisions

Grant applications which request funds solely for land acquisition need not include information regarding the following items whose submission may be deferred until the award of grant assistance to build the project:

a. debarment and suspension (see Section D.7 above);

b. user charge system (see Section V.E and Section D.17 above);

c. sewer use ordinance (see Section V.F and Section D.17 above);

d. O&M manual payment limitations (see Section IX.B.5); and

e. adoption of UC system and SUO (see Sections V.E and V.F, and Section D.17 above).

Re: 40 CFR 35.2122, 35.2260

3. Grant Conditions

Grant awards which include the acquisition of eligible real property are to include grant conditions (see Section M.5.d below) stating that:

a. real property must not be acquired until the reviewing agency has determined, based on documentation submitted by the grantee, that the applicable provisions of 40 CFR Parts 4 and 30 have been met; and

b. the Federal interest in the property to be acquired must be protected by the inclusion of the following language in the title or other recordation instrument:

> "Federal lien: Federal grant funds have been used to purchase this property. The Federal interest is ____ percent of the proceeds from any subsequent sale thereof, or ____ percent of the fair market value of the property on the date of the transaction which removes it from the use for which it was purchased. (See 40 CFR 30.535(e), revised on September 30, 1983). A lien to this effect and extent is hereby asserted."

Re: 40 CFR 30.535, 35.2210

4. Preaward Costs

Potential grant applicants requesting approval, as a preaward cost, of the acquisition of eligible land or of an option for the purchase of eligible land may receive such approval after completion of the environmental review (see Section D.12). In addition, the reviewing agency should request sufficient information from the applicant, such as that required for grant award in Items 1.b through 1.f above, to insure that the costs are likely to satisfy grant application requirements for a subsequent grant. The approval letter from the reviewing agency should include notification that the acquisition of real property, to be eligible, must be procured in accordance with the applicable provisions of 40 CFR Parts 4 and 30. Refer to Section D.15 above for additional warning language to be included in the approval letter.

Re: 40 CFR 35.2118

I. INNOVATIVE OR ALTERNATIVE TECHNOLOGY FIELD TESTING GRANTS

Purpose:

Provide grant assistance for field testing of higher risk I/A projects which require verification of design parameters.

Discussion:

Field testing of I/A projects may be accomplished either as a preaward cost (see Section D.15 above) or under a separate grant. Field testing of I/A projects may be requested by the grant applicant, or may be suggested by the reviewing agency. Prior to making a decision concerning I/A field testing, the State I/A coordinator should discuss the proposed project with the EPA Regional I/A coordinator, and if necessary, seek the advice of the I/A support group at EPA's Municipal Environmental Research Laboratory in Cincinnati, Ohio.

Field testing of I/A projects is recommended for higher risk technologies, in order to verify design parameters prior to building the full scale project. Field testing is to be practical and generally small scale, with the objective of verifying performance, refining insufficiently tested design parameters, or resolving technical uncertainties. Considerable professional judgement is required to determine whether the field testing costs represent a reasonable trade-off in comparison with the corresponding risk of failure of the full scale project if field testing is omitted. Project reviewers are encouraged to review the "Innovative and Alternative Technology Assessment Manual" (MCD-53), particularly Chapter 4, when making this judgement. The review procedures below describe the regulatory requirements for I/A field testing projects. Where specific State or EPA Regional procedures have been developed, they should be followed.

Review Procedures:

1. Grant Application

A grant application which requests funds for I/A field testing must include:

a. all applicable information and documents described in Sections C through E above, except that grant applications solely for I/A field testing need not include the information described in Item 2 below; and

b. a field testing plan, which includes:

  i. identification, including size, of all principal components to be tested;

  ii. location of testing facilities in relationship to full scale project location;

  iii. critical design parameters and performance variables that are to be verified as the basis for I/A determinations;

  iv. schedules for construction of field testing facilities and duration of proposed testing;

  v. capital and O&M cost estimate of field testing facilities, with documentation of cost effectiveness of field testing approach; and

  vi. design drawings, process flow diagrams, equipment specifications, and related engineering data and information, sufficient to describe the overall design and proposed performance of the field testing facility.

Re: 40 CFR 35.2040(e)

2. Deferred Provisions

Grant applications which request funds solely for I/A field testing need not include information regarding the following items, whose submission may be deferred until the award of grant assistance to build the approved full scale project:

a. debarment and suspension (see Section D.7 above);

b. draft plan of operation (see Section D.8 above);

c. UC system (see Section V.E, and Section D.17 above);

d. SUO (see Section V.F, and Section D.17 above);

e. O&M manual payment limitations (see Section IX.B.5); and

f. adoption of UC system and SUO (see Sections V.E and V.F, and Section D.17 above).

Re: 40 CFR 35.2122, 35.2262

3. Grant Conditions

Grant awards which include I/A field testing are to include grant conditions which require the grantee to submit a quality assurance program and a report which describes the procedure, cost, results, and conclusions of field testing in accordance with the schedule contained in the grant agreement (see Section M.5 below).

Re: 40 CFR 30.302(d)(3), 30.503(f) and (h), 35.2211

4. Preaward Costs

Potential grant applicants requesting approval of I/A field testing as a preaward cost may receive such approval after completion of the environmental review (see Section D.12). The reviewing agency should obtain sufficient information from the applicant, such as that required for grant award in Item 1.b above, to substantiate that the I/A field testing is warranted and is likely to satisfy grant application requirements for a subsequent grant. The approval letter from the reviewing agency should remind the applicant that the procurement of services, supplies, and materials must comply with 40 CFR Parts 30 and 33, and that the acquisition of real property must comply with 40 CFR Parts 4 and 30, if such costs are to be allowable for grant participation. Refer to Section D.15 for additional warning language to be included in the letter.

Re: 40 CFR 35.2118

J. INNOVATIVE OR ALTERNATIVE TECHNOLOGY MODIFICATION OR REPLACEMENT GRANTS

Purpose:

Provide grant assistance to fund 100 percent of the allowable cost of the modification or replacement (M/R) of any project funded with increased funds under the I/A technology provisions of the CWA and the implementing regulations.

Discussion:

The 1977 CWA amendments introduced I/A technology provisions into the construction grants program. The I/A provisions were designed to conserve resources and reduce costs for wastewater treatment projects through the use of new or improved technologies, which are inherently subject to a greater than normal risk of failure. As an incentive for using I/A technology and accepting this higher degree of risk, I/A projects were made eligible for increased grant funding, and for 100 percent M/R grants in the event of failure.

The review procedures below address the regulatory provisions applicable to 100 percent M/R grants. It is to be noted that I/A projects which received grant assistance after December 29, 1981 are subject to project performance standards, as required by the 1981 CWA amendments.

Review Procedures:

Grant assistance, either as a grant amendment or a new grant, to fund 100 percent of the allowable costs (including planning and design costs) for the M/R of any I/A project, may be awarded only if the reviewing agency determines that:

a. the I/A elements of the project have caused the project, or significant elements of the complete waste treatment system of which the project is a part, to fail to meet the project performance standards;

b. the failure has significantly increased O&M expenditures for the project, or for the complete waste treatment system of which the project is a part, or requires significant additional capital expenditures for corrective action;

c. the failure has occured prior to two years after the initiation of operation of the project; and

d. the failure is not attributable to negligence on the part of any person.

The report or documentation necessary to substantiate the above four items will vary from project to project, and will depend on the extent and nature of the failure and the size, cost and complexity of the project. Projects which satisfy Item a through d above are also required to receive priority certification from the State agency. It should be noted that some alternative technology projects which received increased grant assistance may have included conventional components which also received increased funding (e.g., treatment prior to land application). It is intended that the conventional components receive 100 percent M/R funding only if their failure was caused by an I/A component of the project.

Re: 40 CFR 35.2032(c)

K. GRANTS TO STATES FOR ADVANCES OF ALLOWANCE

1. Defining the State Program

Purpose:

Provide financial assistance to small communities which would otherwise be unable to perform planning and/or design work prior to the award of a Step 2+3 or a Step 3 grant.

Discussion:

The 1981 CWA amendments provide for an advance of allowance to certain potential grant applicants. State agencies are to identify small communities, as defined by the State, which would be unable to complete an application for a Step 2+3 or a Step 3 grant (i.e., to perform facilities planning and/or design work) without such an advance. States are also required to reserve a reasonable portion of their annual allotment, up to 10 percent, for advances of allowance, unless this requirement is waived by EPA (see Section II.E.4.e).

The amount of funds provided to potential grant applicants is computed in accordance with 40 CFR Part 35, Subpart I, Appendix B. Note that the maximum amount of the advance is not the allowance, but is the allowance times the appropriate EPA grant percentage (see

Sections L.1 and L.2 below). This advance may be less than this maximum amount, at the discretion of the State. Also note that the allowance is based on the estimated allowable building costs, which do not include other associated Step 3 costs such as engineering, legal, accounting, etc.

Unless the total amount of the advance is small and the work is to be performed in a short period of time (e.g., less than six months), it may be advisable to divide the advance into two or more payments (e.g., one for facilities planning, one at the initiation of design, and the balance when 50 percent of the design work has been completed).

If Step 2+3 or Step 3 grant assistance is subsequently awarded to a community which received an advance, the amount of the advance is subtracted from the grant amount. If Step 2+3 or Step 3 grant assistance is not awarded, the State may seek repayment of the advance on such terms and conditions as the State may determine.

Procedures:

Before applying for a grant for advances of allowance, a State must define the following procedures for the administration of advances of allowance:

a. Qualified Communities

Advances may be made only to small communities, as defined by the State, which would otherwise be unable to perform the necessary planning and/or design work. The State must:

i. define a "small community" (e.g., by population size), and

ii. set objective criteria by which it will determine whether a community would be "otherwise unable to perform" (e.g., by income per capita in relation to the estimated per capita cost of planning and/or design).

Re: 40 CFR 35.2025(b)(3)

b. Application Procedure

Application forms and their required contents, as well as review and approval procedures, must be defined by the State. At a minimum, the applicant for an advance should be required to agree to complete the facilities planning and/or design work for which the advance is provided.

Re: 40 CFR 35.2025(b)(1)

c. Amount of Advance

The State is to determine the amount of each community's advance, subject only to the requirement that the total advance cannot exceed the Federal share of the estimated allowance (see Section III.E). The advance can be equal to this maximum, or lower; the decision as to whether it should be lower, and if so, how much lower, must be defined by the State, in language that is objective and treats all communities equally.

In most States, all of the anticipated allotment for the next several years could easily be consumed by high-priority Step 3 projects which have already been designed. Since advances in these States would reduce the amount of money available for high-priority Step 3 projects, some States may decide to limit each advance to a smaller amount which would still meet the minimum needs of each community.

Re: 40 CFR 35.2025(b)(4)

d. Timing of Payments

The advance can be paid at any time after the State approves the community's application for an advance. The advance can be paid in one lump sum, or in several partial payments, depending on the procedures established by the State. A State may decide to mandate multiple payments, since expenses for planning and design are incurred over a substantial period of time, and the payment of the maximum allowable advance during the planning stage would result in most of the funds being advanced long before the expenses are incurred.

State requirements for the timing of payments must apply equally to all communities.

Re: 40 CFR 35.2025(b)(4)

e. Repayment of Advance

The State must define the conditions, if any, under which a municipality which never receives a Step 2+3 or a Step 3 grant would have to repay an advance of allowance. The 1981 CWA amendments authorize, but do not require, the State to seek repayment of the advance, "on such terms and conditions as it may determine." The terms and conditions for repayment may include the collection of interest, at the discretion of the State, as long as all communities are treated equally.

There is no Federal requirement for the collection of interest, since once the State makes an advance to a third party, the advance loses its character as Federal funds. On the other hand, any funds recovered from a municipality by the State (advance and/or interest) must be returned to the grant account for re-use in advancing funds to other municipalities. However, interest earned by the State on funds received from EPA but not yet advanced to a municipality (or recovered from a municipality but not yet advanced to another municipality) may be retained by the State for other uses, as specified in 40 CFR 30.526.

Re: 40 CFR 35.2025(b)(5)

2. Applying for the State Grant

Purpose:

Award Federal grant funds to the State, for the State to provide advances of allowance to small communities.

Discussion:

To acquire funds for making advances of allowance, the State agency applies to EPA for a State grant which will be used for providing advances to small communities. The application includes a list of small communities which, in the judgement of the State, are eligible for the advance. The application may also include a request by the State that payments under the grant be sent directly from EPA to each community, after the State has approved the community's application from an advance (see Section IX.B.8.c).

Procedures:

In order to receive a grant for advances of allowance, a State must:

a. submit an application, using EPA Form 5700-31;

Re: 40 CFR 35.2040(d)

b. define an acceptable program for the administration of advances of allowance (see Item 1 above);

Re: 40 CFR 35.2025(b)

c. notify EPA of the basis for the grant amount requested (normally, by submitting a list of the small communities which are expected to receive an advance, and the amount of the advance which is expected to be provided to each community); and

Re: 40 CFR 35.2040(d)(2)

d. include with the application a list of the communities which received an advance of allowance under the previous grant to the State, and the amount of the advance received by each community.

Re: 40 CFR 35.2040(d)(1)

L. FEDERAL GRANT SHARE

In order to compute the Federal grant share, several factors must be taken into account. While the grant applicant will have computed its grant request, the grant amount offered may be different after the application package and supporting documents have been reviewed. If the grant to be offered is less than that requested, the grantee should be contacted to determine if further clarifying information is available. The letter forwarding the grant offer should clearly explain the reason for any difference in the grant amount.

Procedures:

1. Total Allowable Project Cost

Total project cost consists of many elements of cost, not all of which are allowable for grant participation. Allowable/unallowable costs are determined in accordance with 40 CFR Part 35, Subpart I, Appendix A, as discussed in Section IX.F.

One additional factor arises where the project includes unallowable reserve capacity. The allowable project costs for grants awarded after September 30, 1984, must be limited to the treatment capacity required to serve existing needs on the date of Step 3 grant approval. If the project includes ineligible reserve capacity, it will be necessary to establish a cost ratio (see Section D.18 above). All Step 3 costs which are normally allowable for grant participation are reduced, using the cost ratio. Phased and segmented projects which received a previous Step 3 grant before October 1, 1984 may be exempt from this limitation (see Section D.10 above). A suggested method for determining the total allowable project cost is given below:

a. Establish an estimated total building cost, which is the sum of the estimated award amount of all prime subagreements for building the project, plus amounts approved for force account work performed in lieu of awarding a subagreement for building the project, plus the estimated purchase price of eligible real property. The estimated total building cost so determined does not include project components which are ineligible for grant participation (e.g., collection sewers and related pumping stations). The estimated total building cost so determined would be the estimated allowable building cost of the project, except for projects which include ineligible reserve capacity (see Item d below).

b. Establish the cost ratio for projects (treatment plants, interceptors, and if eligible, collection sewers) with capacity beyond that required to serve existing needs. The cost ratio is the fraction obtained by dividing the estimated building cost to serve existing needs by the estimated total building cost (see Section D.18 above).

c. Determine other allowable cost items associated with the eligible project. If the items described below are not clearly separated between eligible and ineligible project components, they should be distributed proportionately. Allowable cost items include:

    i. professional services during Step 3, such as engineering cost (including services for one year following initiation of operation), construction management, legal, and accounting;

    ii. administrative costs;

    iii. approved costs related to preaward building costs (approved preaward building costs are included in Item a above);

    iv. costs related to the acquisition of eligible land, including relocation (eligible land costs are included in Item a above);

    v. costs related to the direct purchase of major items of equipment by the grant applicant (eligible equipment costs are included in Item a above);

d. Where the project includes ineligible reserve capacity, multiply the estimated building cost (from Item a above) by the cost ratio (from Item b above) to determine the estimated allowable building cost.

e. Where the project includes ineligible reserve capacity, multiply the total of other allowable cost items (from Item c above) by the cost ratio (from Item b above).

f. Where the project has not received both a Step 1 and a Step 2 grant, compute the allowance for facilities planning and/or design, using the appropriate table in 40 CFR Part 35, Subpart I, Appendix B, based on the estimated allowable building cost for the capacity required to serve existing needs (see Item d above, or for projects which do not include ineligible reserve capacity, see Item a above). Note that the grantee does not receive the full allowance, but only the appropriate percentage (see Item 2 below).

g. The total estimated allowable project cost is the sum of the estimated allowable building cost (see Item d above, or for projects which do not include ineligible reserve capacity, see Item a above), the estimated allowable other costs (see Item e above, or for projects which do not include ineligible reserve capacity, see Item b above), and the estimated allowance for facilities planning and/or design (see Item f above).

h. The EPA grant amount is calculated by multiplying the total estimated allowable project cost by the appropriate EPA grant percentage (see Item 2 below), and subtracting the amount of any advance of allowance previously paid to the grant applicant.

Re: 40 CFR 35.2123

2. EPA Grant Share

In computing the EPA grant share, the project reviewer is to examine the applicable conditions noted below to determine the EPA grant percentage, and multiply this percentage by the total allowable project cost (see Item 1.g above). The resulting figure, minus any advance of allowance, is the EPA grant amount.

a. Standard Grant Share

After September 30, 1984 the EPA grant is 55 percent, except as described below.

b. Uniform Lower Federal Share

The Governor of a State may elect to uniformly lower the EPA grant share for all categories of projects. Except for I/A projects, the EPA grant will be the percentage established by the Governor and approved by EPA.

c. Phased or Segmented Projects

These projects are discussed in Section D.10.d above.

d. Projects Using An Innovative or Alternative Technology

The EPA grant share for eligible treatment works or unit processes determined to meet the definition of an I/A technology (including an I/A field testing project) shall be increased by 20 percent of the total allowable cost of the I/A project or the I/A portion of the project, but in no event shall the total Federal share exceed 85 percent. Only I/A components and unique non-I/A components necessary to make the I/A components operate may receive the additional grant percentage. Where a State grant program exists, the State grant percentage of the non-Federal share must not be decreased for an I/A project. For example, assume an EPA standard grant share of 55 percent, a State standard grant share of 10 percent, and a local standard grant share of 35 percent, for a total non-Federal share of 45 percent. The State share of the non-Federal share is 10 divided by 45, or 22.2 percent.

For an I/A project, the Federal share is 75 percent and the non-Federal share is 25 percent. The State's proportional contribution must be at least 22.2 percent of the 25 percent non-Federal share (i.e., at least 5.55 percent of the eligible I/A project cost. This requirement is expected to be met in most States by providing the same State percentage grant to all projects (in this example, 10 percent), but the State percentage grant may be reduced for I/A projects at the discretion of the State, provided that all I/A projects are treated equally, (in this example, to a share not lower than 5.55 percent).

e. Projects for the Modification or Replacement of Failed Innovative or Alternative Technologies

The EPA grant is 100 percent of the allowable cost of the M/R of failed I/A projects which meet the conditions described in Section J above.

f. Other Projects

The EPA grant share does not change because a project receives a Step 2+3, a land acquisition, or a CSO (including a marine CSO) grant. The standard EPA grant share for such projects is 55 percent, unless this percentage is changed as discussed in Items b through e above.

Re: 40 CFR 35.2024(b), 35.2032(c), 35.2109, 35.2152

M. GRANT AWARD PROCEDURES

Detailed grant award procedures may vary from State to State, depending on internal State procedures and the requirements of the State/EPA delegation agreement. Fully delegated States may only need to submit project and priority certifications to EPA (see Items 2 and 3 below), while those States without delegation will need to submit complete application packages. In all cases, however, a grant may only be awarded by EPA. The procedures below are general, and are not a substitute for detailed procedures established in each State and EPA Regional Office.

1. State Procedures

All States have developed internal grant approval procedures which are to be followed prior to submission of the appropriate documentation to EPA. Such procedures usually include:

a. preparation of a one-page project summary for the head of the reviewing agency;

b. preparation of the State Priority Certification (EPA Form 5700-28);

c. preparation of the letter of approval from the State to EPA, including an explanation of any differences between the grant amount requested by the applicant and the grant amount approved by the State;

d. approvals by other offices within the State agency (e.g., compliance, permits, etc.);

e. approval by the State's fiscal office, to verify that funds, including reserves if appropriate (e.g., I/A, small communities), are available;

f. preparation of the grant award input coding sheet for the computerized Grants Information and Control System (GICS); and

g. preparation of a draft grant agreement/amendment (EPA Form 5700-20A), with recommended general and/or special grant conditions (see Items 5 and 6 below).

2. Priority Certification

All States are to review each grant application to verify that it is complete. If the project is listed on the State's project priority list for the current fiscal year and is within the fundable range, the State will complete the State Priority Certification (EPA Form 5700-28) for submission to EPA.

Re: 40 CFR 35.2042(a), 35.2103

3. Project Certification by Delegated States

States which have been delegated authority to manage the construction grants program must submit a written certification to the EPA Regional Office for each project, stating that the applicable Federal requirements, within the scope of authority delegated to the State, have been met. The certification must be supported by documentation retained by the State, which will be made available to EPA upon request.

Upon receiving a certification covering all delegable preaward requirements, EPA must either approve or disapprove the grant within 45 calendar days. If disaproved, EPA will state the reasons and have an additional 45 days to review any subsequent revised submissions. If EPA fails to approve or disapprove within 45 days, the grant shall be deemed approved and EPA must issue the grant agreement to the applicant.

Re: 40 CFR 35.2042(a) and (b)

4. Grant Agreement/Amendment

After receipt, review, and approval of the State certifications and supporting documents, if any, EPA will prepare the Grant Agreement/Amendment (EPA Form 5700-20A) for the Regional Administrator's signature. EPA will also complete the following actions or documents which may already have been prepared (or partially prepared) by the delegated State:

a. briefing memorandum to the EPA Regional Administrator, if required by Regional procedures;

b. Commitment Notice (EPA Form 2550-9) for transmittal to the appropriate EPA fiscal office;

c. preparation and entry of applicable information into GICS (see Section III.C.3); and

d. Grant Agreement/Amendment (EPA Form 5700-20A):

   i. the first page is to be data-phoned to EPA Headquarters immediately after signature by the Regional Administrator (RA);

   ii. the entire form, with a transmittal letter, is mailed to the grant applicant 5 days after EPA Headquarters data-phone notification (not before); and

   iii. the form must be signed by the applicant's authorized representative (see Section C. 1.b above) and returned to the Regional Office within 3 weeks of receipt by the applicant.

5. General Grant Conditions

The Grant Agreement/Amendment contains award conditions which require the grantee to comply with all applicable provisions of 40 CFR Chapter I, Subchapter B. (Subchapter B includes 40 CFR Parts 30 through 35, and references all other applicable regulations, including 40 CFR Parts 4, 6, 7, 25, and 29.)

The reviewing agency may wish to supplement these preprinted grant conditions by adding grant conditions which emphasize specific regulatory provisions. Although the inclusion of these additional conditions does not increase the grantee's obligation to comply with with these regulations, they are frequently added to increase the grantee's awareness of its obligations under the regulations. Representative samples of these conditions are identified below:

a. Effect of Approval

Approval or certification of project documents (e.g., facilities plan, plans and specifications, etc.) by the reviewing agency is for administrative purposes only, and does not relieve the grantee of its responsibility for the entire project.

Re: 40 CFR 35.2050

b. Step 2+3

The grantee must obtain reviewing agency approval before initiating acquisition of eligible real property, procurement of equipment, or selection of construction contractors.

Re: 40 CFR 35.2202

c. Project Changes

The reviewing agency must approve certain project changes, as specified in 40 CFR 35.2204, by formal grant amendment.

Re: 40 CFR 35.2204

d. Land Acquisition

The reviewing agency must verify that the requirements of 40 CFR Part 4 have been met before real property is acquired, and the Federal interest in the property to be acquired must be protected (see Section H.3.b above).

Re: 40 CFR 30.535, 35.2210

e. Project Initiation

The grantee shall expeditiously initiate and complete the project in accordance with the schedule contained in the application and the grant agreement. Failure to award contracts and to issue notices to proceed for building all significant elements of the project within 12 months of grant award (or of final approval of plans and specifications, and the related documents described in Section F.3 above, under a Step 2+3 grant) may result in a limitation on allowable costs or the imposition of sanctions (see Sections VIII.B.4 and IX.F.4, Paragraph A.2.e).

Re: 40 CFR 30.900 through 30.906, 35.2212

f. Quality Assurance Program

The grantee must submit a quality assurance program within 30 days of grant award for projects which include environmental studies, field testing of I/A technologies, evaluation of wastewater treatment plant performance (e.g., during the one year project performance period), or other activities which entail gathering environmental or environmentally related data.

Re: 40 CFR 30.302(d)(3), 30.503(f) and (h)

g. Project Performance Standards

The grantee should be informed of the parameters which have been identified by the reviewing agency as project performance standards (see Sections V.C.2.a and VII.I.2.a).

Re: 40 CFR 35.2218(c)

h. Field Testing of Innovative or Alternative Technologies

See Section I.3 above.

6. Special Grant Conditions

Where there are compelling reasons, special grant conditions may be included in the grant agreement. Unlike general grant conditions, special grant conditions do not repeat EPA's regulatory requirements, but rather are special conditions under which the grant has been awarded, due to unusual circumstances. All proposed special grant conditions should receive a technical and legal review, to insure that their inclusion in the grant agreement/amendment is appropriate.

CHAPTER VII

CONSTRUCTION

A. INTRODUCTION

B. PROCUREMENT SYSTEM REQUIREMENTS

C. PROCUREMENT OF PROFESSIONAL SERVICES

D. PROCUREMENT OF CONSTRUCTION CONTRACTORS

E. SMALL PURCHASES

F. NONCOMPETITIVE PROCUREMENT

G. MONITORING CONSTRUCTION

H. MANAGEMENT OF CLAIMS AND CHANGE ORDERS

I. POST-CONSTRUCTION ACTIVITIES

A. INTRODUCTION

This chapter begins with a discussion of EPA requirements for grantee procurement systems, and for the procurement of professional and construction services. Later sections discuss activities which take place during project construction, including project inspection and management of change orders. The chapter concludes with a discussion of the requirements for project performance during the first year following initiation of operation. Payments, payment limitations, and grant increase/decrease procedures are discussed in Chapter IX.

Section B, Procurement System Requirements, describes certification and reporting requirements for grantee procurement systems.

Section C, Procurement of Professional Services, describes specific requirements for the procurement of engineering, legal, accounting, and other professional services.

Section D, Procurement of Construction Contractors, describes competitive bidding procedures, grant adjustment, and protests concerning grantee procurement actions.

Section E, Small Purchases, describes EPA's simplified requirements for purchases costing $10,000 or less.

Section F, Noncompetitive Procurement, describes the limitations and approvals necessary for this type of procurement.

Section G, Monitoring Construction, describes monitoring activities, including preconstruction conferences, project management conferences (PMCs), interim inspections, construction management evaluations (CMEs), and final inspections.

Section H, Management of Claims and Change Orders, describes management activities which should be employed by grantees for the effective control of claims and change orders, and reviewing agency procedures for processing change orders.

Section I, Post-construction Activities, describes engineering services during the first year following project completion and the requirements for the grantee's certification concerning project performance standards.

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B. PROCUREMENT SYSTEM REQUIREMENTS

1. Procurement System Certification

In the interest of reducing the time and paperwork needed for processing grant applications, each grant applicant is encouraged to use its own procurement system, provided that the system meets all applicable Federal, State, and local laws and regulations. Each grant applicant is required to evaluate its procurement system, compare the system against EPA's procurement regulations, and complete the Procurement System Certification (EPA Form 5700-48) before any procurement action is undertaken with EPA grant assistance.

Where the grant applicant affirmatively certifies that its procurement system meets the intent of the requirements of 40 CFR Part 33, EPA will accept the applicant's certification unless EPA or the State agency has reason to question it. Where the grant applicant does not affirmatively certify, the grant applicant is required to comply with the requirements of 40 CFR Part 33, and to submit specific documentation to the reviewing agency.

It is to be noted that most review and approval activities related to grantee procurement actions may be delegated to the State agency, including the review of a grantee's Procurement System Certification (EPA Form 5700-48) and the authorization for a grantee to use an innovative procurement method. However, EPA can not delegate the actual review of a grantee's procurement system under 40 CFR 33.115, nor the resolution of protests of grantee procurement actions under 40 CFR Part 33, Subpart G.

Review Procedures:

a. Each grant applicant is required to complete a Procurement System Certification (EPA Form 5700-48), indicating whether its procurement system meets the intent of all requirements in the EPA procurement regulations (40 CFR Part 33).

b. If the grant applicant affirmatively certifies, EPA must accept the applicant's certification. However, EPA reserves the right to review the procurement system or any individual procurement action:

   i. to determine if the EPA procurement requirements are being met, or

ii. if there is reason to believe that the procurement system is unacceptable based on:

  - information from other Federal agencies or from Congress,
  - information from the applicant's cognizant audit agency,
  - information from State agencies or other organizations,
  - information contained in the certification form,
  - previous EPA experience with the applicant, or
  - information from contractors or prospective contractors.

c. Prior written approval must be received from the reviewing agency, even though the applicant's procurement system was previously certified, if the applicant intends to:

i. use an innovative procurement method, or

ii. use the provisions of 40 CFR 33.715(a)(2) to noncompetitively procure the services of an engineer who provided facilities planning or design services, but whose selection for such previous work was not accomplished in accordance with the then-applicable EPA procurement regulations (if the work was performed under a Step 1 or a Step 2 grant) or the provisions of the current EPA procurement regulations which are listed in 40 CFR 33.715(a)(3).

d. An applicant's affirmative certification is valid for two years or for the length of the project period, whichever is longer, unless the procurement system is substantially revised, or EPA determines that the intent of the EPA procurement regulations is not being followed.

e. If the grant applicant does not affirmatively certify, the applicant is required to comply with the additional requirements of 40 CFR Part 33, Appendix A, for all procurement actions undertaken with EPA grant assistance. These requirements are described in Items 2.b and 3 below.

Re: 40 CFR 33.001(g), 33.105, 33.110, 33.115

2. Reporting Requirements

a. All grantees must submit the following information to the reviewing agency, in writing, within ten calendar days of contract award, for all construction contracts whose cost is expected to exceed $10,000 within a 12 month period (e.g., a $15,000 contract with a 24 month performance period would not be reportable, nor would a $7,000 contract with a two month performance period):

i. name, address, telephone number, and employer identification number of the construction contractor;

ii. amount of the contract award;

iii. estimated starting and completion dates;

iv. project number, name, and site location; and

v. copy of the tabulation of bids or offerors and the name of each bidder or offeror.

This information will be sent by EPA to the U.S. Department of Labor (DOL). In some States, the State/EPA delegation agreement provides for the State agency to perform this function.

Re: 40 CFR 33.110(e)(2), 33.211, 35.2212(d)

b. Grantees without a certified procurement system are required by 40 CFR 33.110(b)(2) to allow the reviewing agency to conduct a preaward review of all proposed procurement actions. The manner, timing, and extent to which this review is conducted is, therefore, at the discretion of the reviewing agency. Some agencies may require only a notice of intent from the grantee, with the actual documents to be submitted only at the request of the reviewing agency, while others will require the submission of complete documentation. Unless otherwise instructed by the reviewing agency, grantees without a certified procurement system must submit the following information for all contracts (not only construction contracts) in excess of $10,000. All other grantees must retain these documents in their files, and make them available at the request of the reviewing agency and/or auditing agency:

i. basis for contractor selection;

ii. justification for the procurement method selected, if other than competitive bidding (i.e, formal advertising);

iii. justification for the use of any specification which does not provide for maximum free and open competition;

iv. justification for the type of contract, if other than fixed price;

v. basis for the award cost or price, including a copy of the cost or price analysis and documentation of negotiations, if other than a fixed price contract with the lowest responsive, responsible bidder (includes all contracts over $10,000 which are not competitively bid; must include EPA Form 5700-41 for all contracts awarded by grantees without a certified procurement system); and

vi. justification for the rejection of any or all bids (see Section D.2 below).

Re: 40 CFR 33.250, 33.290(b); 40 CFR Part 33, Appendix A

3. Public Notice Requirements

Except for grantees whose certified procurement systems include provisions which meet the intent of EPA's public notice requirements, all grantees must give adequate public notice of all proposed procurement actions, as defined in the EPA procurement regulations. These regulations require a notice of the proposed procurement action to be published in professional journals, newspapers, or publications of general circulation over a reasonable area (depending on the size of the project; extremely large projects will usually warrant nationwide advertisement), for at least 30 days prior to the deadline for receipt of proposals or bids. Posted public notices or written notifications mailed or delivered to interested persons, firms, or professional organizations may also be used.

Re: 40 CFR 33.415, 33.510; 40 CFR Part 33, Appendix A, Paragraphs (b)(4) and (b)(5)

C. PROCUREMENT OF PROFESSIONAL SERVICES

This section discusses the procurement of professional services normally associated with Step 3 grant activities. The term "professional services" is used to designate engineering, architectural, construction management, legal, and accounting services, as opposed to services provided by construction contractors and equipment suppliers. All procurements made in whole or part with EPA grant assistance, however, are subject to EPA's procurement regulations (40 CFR Part 33), which describe four types of procurement:

- formal advertising (i.e., competitive bidding),
- competitive negotiation,
- noncompetitive negotiation, and
- small purchases.

While formal advertising, with contractor selection based on competitive prices, is the preferred method of procurement, practically all professional services procurement is accomplished using the competitive negotiation procedure. For this reason, the discussion below is limited to procurement using the competitive negotiation procedure.

1. Competitive Negotiation

Purpose:

Advertise, receive, and evaluate proposals, negotiate with the best qualified offerors, and award a subagreement to the responsible offeror whose proposal is determined to be the most advantageous to the grantee, taking into account price and other objective evaluation criteria.

Discussion:

As with all procurements using EPA funds, procurement transactions are to be conducted in a manner that provides maximum open and free competition. The competitive negotiation method of procurement applies equally to the procurement of engineering, architectural, construction management, legal, and accounting services. Competitive negotiation differs from competitive bidding procurement primarily in the manner in which price is considered. Price, while important, may be only one of several criteria used to evaluate offers in competitive negotiation, while in competitive bidding, price competition is the primary consideration.

Procedures:

All grantees must follow the procedures described below, except that grantees which have certified procurement systems (see Section B.1 above) may follow their own procedures, if those procedures meet the intent of the procedures described below:

a. Public Notice

When advertising a request for proposals (RFP), the grantee must give adequate notice to the public (see Section B.3 above). The public notice must include adequate information to allow interested parties to readily obtain the proposal documents.

b. Proposal Documents

Proposal documents must include:

i. a copy of 40 CFR 33.295 and 40 CFR Part 33, Subparts F and G;

ii. sufficient information to enable an interested party to prepare a proposal;

iii. a description of all evaluation criteria and the relative importance attached to each;

iv. the objective basis which will be used to select the firm to which the subagreement will be awarded; and

v. the deadline and the place for submission of proposals.

c. Proposal Evaluation

Proposals are to be uniformly and objectively evaluated solely on the basis of the evaluation criteria stated in the RFP.

d. Negotiation

Unless the request for proposals states that contract award may be based on initial proposals alone, the grantee must conduct meaningful negotiations with the best qualified offerors (i.e., those which have submitted acceptable proposals within the competitive range), and must permit these offerors to make revisions to their proposals, in order to obtain the best final offers. The best qualified offerors must have equal opportunities to negotiate and to revise their proposals. During negotiations, the grantee must not disclose the identity of competing offerors, nor any information from competing proposals.

e. Contract Award

A subagreement must be awarded to the responsible offeror whose proposal is determined in writing (see Section B.2.b above) to be the most advantageous to the grantee, taking into consideration price and other evaluation criteria stated in the RFP.

Re: 40 CFR 33.505, 33.510, 33.515, 33.520;
40 CFR Part 33, Appendix A

2. Optional Method for Procuring Engineering Services

The grantee may use the optional procedures described below, in lieu of the procedures described in Item 1 above, for the procurement of engineering services. Grantees with a certified procurement system may follow their own procedures, if those procedures meet the intent of the procedures described below:

a. Public Notice

The grantee must give adequate notice (see Item 1.a above) to develop a prequalified list (see Section V.C.1.c) or to request statements of qualifications.

b. Evaluation of Qualifications

Either responses to the request for qualifications (RFQ), or the information about firms in the prequalified list, must be used to determine the most technically qualified firms.

c. Proposal Request and Evaluation

After selecting and ranking the most qualified firms, the grantee issues an RFP to request technical proposals, and indicates in the RFP the objective evaluation criteria to be used for ranking proposals. The best technical proposal is selected, based upon the criteria stated in the RFP.

d. Negotiation

Negotiation of fair and reasonable compensation is undertaken with the offeror which submitted the best technical proposal. If agreement cannot be reached, negotiations are formally terminated (i.e., in writing), and new negotiations are begun with the firm which submitted the next best proposal. Once negotiations with an offeror have been formally terminated, they cannot be reopened. If necessary, the process continues with other firms which have submitted proposals, in the order of their rank (see Item c above), until successful negotiations have been completed.

3. Continuation of Engineering Services

Purpose:

Allow grantees to continue using the same engineering firm which performed all or part of the facilities planning or design work, without further public notice or evaluation of qualifications.

Discussion:

Earlier EPA procurement regulations, in effect when separate grants were provided for facilities planning (Step 1), design (Step 2), and construction (Step 3), allowed grantees to continue using the same engineering firm from one grant step to another without further advertising, provided that certain limitations were met. This option is to be continued, even though separate grants are no longer awarded for facilities planning and design. The regulations and review procedures below describe three circumstances under which a grantee may continue to use the same engineering firm.

Review Procedures:

If the grantee is satisfied with the qualifications and performance of the engineering firm which provided any or all of the facilities planning or design services for the project, that firm may be retained during the building of the project. To do so, without further public notice and evaluation of qualifications, the grantee must have documentation which provides evidence that one of the following conditions has been met:

a. Prior Grant

The grantee received a facilities planning (Step 1) or design (Step 2) grant, and selected the engineering firm in accordance with the EPA procurement regulations which were in effect when the grant was awarded (generally 40 CFR 35.936, 35.937, and 35.939);

b. Prior Competitive Selection

The grantee did not receive a previous EPA grant, but used a competitive selection procedure to obtain previous engineering services, and can document that:

i. the initial RFP clearly stated the possibility that the successful offeror could later be awarded a subagreement for services during construction;

ii. the firm was selected for facilities planning or design services using procedures which satisfy the requirements of:

- competition (40 CFR 33.230);
- documentation (40 CFR 33.250); and
- one of the following three procurement methods:
  - small purchases (40 CFR 33.305 through 33.315),
  - formal advertising (40 CFR 33.405 through 33.430), or
  - competitive negotiation (40 CFR 33.505 through 33.525); and

iii. no conflicts of interest existed.

c. Noncompetitive Negotiation

Based on information submitted by the grantee, the reviewing agency finds sufficient justification to allow noncompetitive procurement for reasons other than simply using the same individual or firm which provided facilities planning or design services. Such justification must be based on sound business reasons (e.g., emergency conditions, inadequate competition, services available only from a single source, etc.). This condition requires prior approval from the reviewing agency (see Section F below).

The procurement of engineering services for Step 3 work must also satisfy all other provisions of the current EPA procurement regulations (e.g., type of subagreement, cost and price analysis, required subagreement clauses, etc.), and must comply with the documentation and reporting requirements discussed in Section B.2 above.

Re: 40 CFR 33.715

4. Small, Minority, Women's, and Labor Surplus Area Businesses

The affirmative action steps described in Section V.C.1.w are equally applicable to grantee actions in the procurement of professional services. Evidence that the grant applicant recognizes his responsibilities with regard to these businesses should be submitted with the grant application. The reviewing agency must insure that the affirmative steps were carried out, and that the applicant complied with State or local goals or other applicable standards.

Re: 40 CFR 33.240

5. Scope of Work

Purpose:

Provide sufficient detail to clearly define the nature, scope, extent of work, time frame for completion, total compensation, and payment provisions for grantee subagreements for professional services.

Discussion:

a. Engineering Services during Construction

The scope of work will generally include:

- i. those applicable services normally associated with engineering supervision and inspection during construction (e.g., interpretation of plans and specifications, resolution of technical problems, preparation of estimates of work in place, review of claims and change orders, etc.); and
- ii. preparation and implementation of the final plan of operation, including the preparation of the operation and maintenance (O&M) manual.

b. Post-construction Engineering Services

The 1981 Clean Water Act (CWA) amendments require the grantee to select the engineer or engineering firm principally responsible for either supervising, or providing engineering services during construction (i.e., facilities planning, design, and/or building of the project), to provide engineering services during the first year following initiation of operation. Such services should be reflected in the scope of work and will generally include:

i. directing the operation of the project, including both sewer projects and treatment facilities, commensurate with the type and complexity of the project;

ii. conducting studies regarding the elimination of excessive infiltration/inflow (I/I);

iii. revising the O&M manual as necessary to accommodate actual operating experience;

iv. training, including the preparation of curricula and training material, for operating personnel; and

v. advising the grantee whether the project is meeting the project performance standards (see Section I.2 below).

Procedures:

The scope of work of the subagreement is to be reviewed to insure that it clearly defines:

- the nature, scope, and extent of the work to be performed;
- the time frame or schedule for performance;
- the total cost or compensation of the contractor; and
- payment provisions, including retainage, if any.

Re: 40 CFR 33.1015, 35.2218(b); preamble to 40 CFR Part 35, Subpart I, 49 FR 6228, "Project Performance," and 49 FR 6231, "Building" (February 17, 1984)

6. Types of Subagreements and Required Provisions

All professional services subagreements (contracts) must include the applicable provisions and clauses described in 40 CFR Part 33, and must not include any provisions which are prohibited by 40 CFR Part 33. The reviewing agency must verify that the following subagreement requirements have been satisfied:

a. Subagreements must be awarded only to responsible contractors (see Section V.C.1.f).

b. Prohibited types of subagreements are the cost-plus-percentage-of-cost (e.g., a multiplier which includes profit) and the percentage-of-construction-cost.

c. The type of subagreement selected should be based on the nature of the work and the degree of risk inherent in performing the work. Typical types of subagreements used for professional services include:

   i. fixed price (lump sum), where the scope of work is clearly defined; or

   ii. cost-plus-fixed-fee, where the scope of work is less clearly defined. These subagreements include a cost ceiling which may not be exceeded without negotiation and the preparation of a contract amendment (i.e., change order).

d. In addition to including provisions which define a sound and complete subagreement (see Item 5 above), all subagreements must include the applicable provisions of 40 CFR Part 33 regarding labor standards; patents, data and copyrights; violating facilities; energy efficiency; and the model subagreement clauses or their equivalent. The grantee and the contractor must first determine which of these provisions apply to the work to be performed, and then create a contract clause to address each requirement.

Re: 40 CFR 33.220, 33.285, 33.1005 through 33.1030

7. Cost and Price Analysis

Purpose:

Insure that the total cost of a subagreement, including each component of its cost, is reasonable, allowable, and commensurate with the scope and complexity of the work.

Discussion:

The procurement regulations require the grantee to conduct a cost analysis, based on information submitted by contractors and subcontractors, of all negotiated change orders and negotiated subagreements in excess of $10,000. Cost analysis is the process of examining, verifying, and evaluating cost data, and projecting from the basic cost data to determine a reasonable estimated price that will be representative of the total cost of performance of the negotiated subagreement. To be allowable for grant participation, cost must comply with the cost principles in 48 CFR Part 31, "Contract Cost Principles and Procedures" (see Sections IX.F.1 and IX.F.2). Profit must be negotiated as a separate element of price where there is no price competition, or where price is based on a cost analysis.

In general, total cost consists of three elements: direct costs (labor, materials, and supplies for a specific project), indirect costs (overhead and/or general and administrative burden such as rent, utilities, fringe benefits, employee taxes, accounting costs, etc., where such costs cannot be directly assigned to a specific project), and profit.

The estimated hours necessary to perform a specific task times the hourly rate paid to the employees, which varies with their level of skill, represents direct labor costs.

Some costs included in an indirect cost category are not allowable for grant participation even though they are a cost of doing business. Examples of these costs are interest on borrowed capital, bad debts, advertising, entertainment, and business development expenses. Indirect costs may be allocated to all projects within the business, but must be reasonable and allocated on a rational basis.

The last element of cost is profit. While the EPA regulations do not discuss a specific level of profit, grantees are required to negotiate a "fair and reasonable" profit. The determination of a "fair and reasonable" profit requires judgement by all parties, and may be guided by practices in the area and the degree of risk incurred by the contractor. For example, a fixed price contract, assuming that the costs were accurately estimated, exposes the contractor to a higher level of risk than a cost-plus-fixed-fee contract.

Review Procedures:

For all negotiated subagreements in excess of $10,000, the reviewing agency is to insure that the grantee has conducted a cost analysis for all contractors and subcontractors and that:

a. estimates of work hours, level of required skills, and direct labor rates are reasonable and commensurate with the work to be performed;

b. indirect cost rates are reasonable, allocated on a rational basis, conform with Federal cost principles, and do not include any unallowable costs; and

c. profit is negotiated as a separate element of cost, and is commensurate with the complexity of the work and the type of contract (i.e., the level of risk assumed by the contractor).

Re: 40 CFR 33.235, 33.275, 33.290; 40 CFR Part 33, Appendix A; 48 CFR Part 31

8. Additional Services

At times, additional professional services, beyond those originally envisioned (either in scope or extent) at the time of contract preparation, will be required by the grantee. Such additional services are most frequently required for deciding procurement protests filed by potential construction contractors and equipment suppliers (see Section IX.F.4, Paragraph A.1.c), and for assessing the merits and negotiating the settlement of claims filed by construction contractors and equipment suppliers (see Section IX.F.4, Paragraph A.1.f).

To be eligible for grant participation, the additional services must be within the scope of the project (i.e., the work necessary to construct the facility described by the facilities plan). If the additional work is within both the scope of the project and the scope of the existing contract for professional services (see Item 5 above), a change order may be issued to the contractor by the grantee, with the price of the additional services negotiated as an equitable adjustment to the contract. If the change order requires prior approval by the reviewing agency (see Section H.3 below, and Section IX.F.4, Paragraph A.1.f), the review procedures described in Section H.5 below, modified to suit contracts for professional services, should be used.

If the additional work is within the scope of the project, but outside the scope of work of the existing contract, the additional services must be procured through the procedures described in Section C.1 or C.2 above, unless the procedures described in Section E or F below are appropriate.

Re: 40 CFR 33.1030, Paragraph 3(b)

D. PROCUREMENT OF CONSTRUCTION CONTRACTORS

The grantee is required to award subagreements and issue notices to proceed for building all significant elements of the project as soon as possible, but no later than 12 months, after grant award. All grantees must submit limited information concerning each subagreement award to the reviewing agency. Grantees without a certified procurement system must submit more detailed information.

1. Competitive Bidding

In almost all cases, procurement of construction contractors and suppliers of equipment and materials must be done using the competitive bidding method (referred to as formal advertising in 40 CFR Part 33). Competitive bidding involves advertising for bids, receipt of sealed bids, public opening of bids, and the award of the contract to the responsive and responsible bidder who submits the lowest bid. In practically all cases (see Section B.2.a above), a bid tabulation must be prepared by the grantee's engineer, showing the prices bid by each contractor for each item in the contract proposal form. The reviewing agency is to insure that all required competitive bidding procedures were used, including:

a. Public Notice

When advertising for bids under the formal advertising (i.e., competitive bidding) method, the grantee must give adequate notice to the public. The public notice must include sufficient information to enable bidders to readily obtain and review bidding documents.

b. Bidding Documents

The bidding documents must include:

i. a copy of 40 CFR 33.295; 40 CFR Part 33, Subparts F and G; and if appropriate, "Labor Standard Provisions for Federally Assisted Contracts" (EPA Form 5720-4);

ii. a complete statement of the work to be performed, including where appropriate, design drawings, specifications, and the required performance schedule;

iii. the terms and conditions of the subagreement to be awarded, including payment, delivery schedules, point of delivery, and acceptance criteria;

iv. the place and deadline for submitting bids;

v. a clear explanation of the bidding procedures and the method to be used by the grantee to evaluate bid prices and to award the subagreement;

vi. the criteria to be used in evaluating bidders' compliance with the responsibility requirements; and

vii. the DOL prevailing wage rate determination, if applicable.

c. Addenda

Prior to bid opening, the grantee may have issued addenda to correct errors, to clarify information in the bidding documents, or to incorporate the current wage rate determination. Contract proposal documents should include a form for certification that the bidder has received all addenda before the bid date. Where addenda have been issued by the grantee, the reviewing agency is to insure that receipt of such addenda is acknowledged by each bidder, and that the addenda were issued in a reasonable time (generally 5 days) before the deadline for the receipt of bids (see Section V.C.1.d).

d. Number of Bids

Sufficient bids (two or more) must have been received. If only one bid was received, the procurement action becomes, by definition, a non-competitive procurement (see Section F below). As an alternative to non-competitive procurement, the grantee may reject all bids if there are sound business reasons for doing so (see Item 2 below).

e. Bid Evaluation

Evaluation of all bids must have been made using the objective criteria described in the bidding documents. All necessary bid bonds and certifications must have been submitted, and all required forms completed and signed. If only two responsive and responsible bids were received and the low bid exceeded $10,000, the grantee must have conducted a price analysis of the winning bid and determined that it was reasonable.

f. Contract Award

A fixed price contract must be awarded to the lowest responsive and responsible bidder (see Section V.C.1.f). The contractor to which the contract is awarded must not be on EPA's Master List of suspended and debarred contractors.

Re: 40 CFR 33.211, 33.220, 33.235, 33.290(b), 33.405, 33.410, 33.415

2. Rejection of All Bids

The grantee may reject all bids only if it has sound, documented business reasons for doing so. The reviewing agency may approve such actions where justified as being in the best interests of the construction grants program. Because of varying State statutory requirements, it may be prudent to request that the grantee's legal counsel submit documentation supporting such actions under State law. If the grantee improperly rejects all bids, any additional costs incurred (including a contract price which is higher than the original low bid) will be ineligible for grant assistance. It is therefore advisable for the grantee to consult with the reviewing agency before rejecting all bids.

After rejection of all bids, the grantee may either readvertise using the competitive bidding method (see Item 1 above), or negotiate the procurement (if appropriate) in accordance with 40 CFR 33.505 through 33.525 or 33.605.

Re: 40 CFR 33.430(c)

3. Small, Minority, Women's, and Labor Surplus Area Businesses

The reviewing agency is to insure that affirmative actions have been taken by the grantee, and where appropriate, by the grantee's contractors, to include small, minority, women's, and labor surplus area businesses in the bidding process (see Section V.C.1.w). Where State or local goals have been established, the reviewing agency is to compare those goals against the contract awards.

Re: 40 CFR 33.240

4. Grant Adjustment

Each grant award is originally based on the estimated allowable costs of building the project, a reasonable construction contingency, the cost of eligible land, and the estimated allowance for planning and/or design. After the receipt of bids and the acquisition of eligible land, the costs of building the project are more accurately known, and the grant should be adjusted accordingly. Any grant adjustment requires a formal grant amendment.

a. Building Cost

The sum of all prime contracts and subcontracts (including contracts for the direct purchase of equipment, materials, or supplies by the grantee), plus the cost of approved force account work in lieu of awarding construction contracts, equals the total allowable building cost. If the total allowable building cost is less than the estimates used for grant award, the grant is to be reduced accordingly (see Section IX.C.2). If the total allowable building cost is more than the estimated allowable building cost plus the construction contingency, the grant may be increased (see Section IX.C.1) if the bids are judged reasonable, and sufficient funds are available in the State's allotment (many States maintain a reasonable reserve of grant funds for this purpose). If bids are significantly higher than anticipated, it may be necessary for the grantee to reevaluate its financial capability in light of the higher costs. Also, if bids are significantly higher, it may be appropriate for the grantee to reevaluate the scope of work, or when appropriate, reject all bids and readvertise. This last course of action may only be undertaken in accordance with State law and EPA procurement regulations (see Item 2 above).

b. Construction Contingency

After receipt of bids, the construction contingency is usually reduced to between 2 and 5 percent of the total allowable building costs. The construction contingency is available for unanticipated cost increases (i.e., change orders) during construction.

c. Land Acquisition Cost

Assuming that the requirements of 40 CFR Parts 4 and 30 have been satisfied with regard to the acquisition of eligible land, the grant amount may require adjustment after the actual cost of eligible land is known.

d. Allowance for Planning and/or Design

The final allowance for planning and/or design is determined only once, and is based on the initial allowable award amount of all prime construction contracts (including contracts for the direct purchase of equipment, materials, and supplies by the grantee), plus the initial amount approved for force account work in lieu of awarding construction contracts, and the purchase price of eligible land. The amount of the allowance does not change, even if the actual building costs increase or decrease during the performance of the work. The final allowance is computed in accordance with 40 CFR Part 35, Subpart I, Appendix B (see Section VI.L.1).

e. Grant Amendment

Any grant adjustment, as determined in Items a through d above, requires the preparation of a formal Grant Agreement/Amendment (EPA Form 5700-20A). States are to verify that sufficient funds are available in the State's allotment, certify the grant amendment and other documents required by the State/EPA delegation agreement, and submit the grant amendment to EPA for approval (see Section VI.M).

Re: 40 CFR 30.700, 35.2204

5. Contract Award

Grantees are to award contracts and issue notices to proceed for building all significant elements of the project as soon as possible, but no later than 12 months, after grant award (see Section IX.F.4, Paragraph A.2.e).

Re: 40 CFR 35.2212

6. Protests

A protest is a written complaint concerning the grantee's solicitation or award of a subagreement, and may be filed with the grantee only by a party with a direct financial interest which has been adversely affected by the grantee's action. Protests may be filed during the procurement of professional services or construction services (including the direct purchase of equipment, materials, and supplies by the grantee), and should normally be submitted to the grantee prior to the closing date for the receipt of proposals or bids.

Grantees bear the primary responsibility for the resolution of protests, and should establish procedures for their prompt resolution. It is advisable that these procedures require protests involving allegations of improprieties in the grantee's solicitation practices to be submitted to the grantee prior to bid opening or the closing date for the receipt of proposals. Upon receipt of a protest, the grantee should first determine whether it is appropriate to defer the protested procurement action. If the procurement action is not deferred, the protester files an appeal with EPA, and EPA finds in favor of the protester, the cost of the protested procurement action may be disallowed for grant participation. Grantees should investigate the basis for the protest, seek the advice of legal counsel, document all meetings and actions, correspond by registered mail, and resolve the protest promptly and equitably.

EPA regulations primarily address the procedures to be used by EPA in considering a protest appeal. A protest appeal is a written complaint filed with EPA by a party with a direct financial interest which has been adversely affected by the grantee's decision on the initial protest. Protest appeals are to be filed with the Office of Regional Counsel in the appropriate EPA Regional Office (or for grants awarded by EPA Headquarters, the Assistant General Counsel for Grants).

EPA will not accept a protest appeal unless the protester has exhausted all administrative remedies at the grantee level. A protest appeal is limited to:

a. issues arising under the procurement provisions of 40 CFR Part 33 (e.g., an appeal concerning the rejection of all bids);

b. alleged violations of State or local law, but only where EPA determines that there is an overriding Federal interest; and

c. issues arising over the award of a lower tier subagreement (subcontract) by a prime contractor.

When the protester files appeal documents with the Office of Regional Counsel (or for grants awarded by EPA Headquarters, the Assistant General Counsel for Grants), all protest documents and attachments must be concurrently transmitted by the protester to all other parties with a direct financial interest which may be adversely affected by the appeal.

The EPA official designated to resolve the appeal will consider only written appeals filed within seven calendar days after the adversely affected party (initial protester or other party) received the grantee's determination. This requirement can be met if the adversely affected party transmits a telegram to EPA within the seven calendar days, indicating an intent to file a protest appeal, and the complete protest appeal is received by EPA within seven days thereafter.

When EPA receives a protest appeal and the grantee has not deferred the procurement action, EPA will promptly request that the grantee defer the protested procurement action with respect to the subagreement or item at issue until the appeal is resolved.

EPA may summarily dismiss the appeal if:

- procurement issues are not involved,
- the appeal is otherwise not reviewable,
- procedural requirements (i.e., meeting deadlines) have not been complied with,
- the protester does not agree to extend the bid and bid bond period, or
- the appeal lacks merit.

If a review is warranted, EPA may arrange for the submission of written arguments or participation in a conference by all parties who may be adversely affected by the appeal. EPA will then determine whether the protest has a rational basis. EPA's determination will constitute the final action, from which there is no further administrative appeal. State reviewing agencies may not be delegated responsibility for the resolution of protest appeals under EPA's procurement regulations.

Re: 40 CFR 33.001(g); 40 CFR Part 33, Subpart G

E. SMALL PURCHASES

Small purchase procurement procedures provide for a simplified method of procurement where the dollar value is relatively small. Small purchases, however, must be conducted in such a way as to insure competition, so that the product or service is the best value for the lowest price. In reviewing small purchase procurements, insure that:

1. the aggregate amount of any one procurement does not exceed $10,000, or a lower amount established by State or local law;

2. the procurement was not divided into smaller amounts to avoid the dollar limitation for small purchase procurement; and

3. price or rate quotations were obtained and documented from an adequate number of qualified sources.

Re: 40 CFR 33.305, 33.310, 33.315

F. NONCOMPETITIVE PROCUREMENT

Noncompetitive negotiation (i.e., sole source procurement) is the least favored method of procurement, and may only be used if the other three methods of procurement are inappropriate, or where the requirements for continuation of engineering services have been satisfied (see Section C.3.c above). Noncompetitive procurement for the continuation of engineering services requires the prior written approval of the reviewing agency.

Noncompetitive negotiation may only be used if the other three procurement methods (i.e., competitive bidding, competitive negotiation, and small purchase) are inappropriate because:

1. the item is available only from a single source;

2. a public exigency or emergency exists;

3. after solicitation from a number of sources, competition is inadequate (e.g., after formal advertising, only one responsive and responsible bid is received); or

4. the reviewing agency authorizes noncompetitive negotiation for continuation of engineering services (see Section C.3.c above).

Re: 40 CFR 33.605, 33.715

G. MONITORING CONSTRUCTION

Purpose:

Insure that the grantee manages the project in accordance with the commitments made in the grant application and the grant acceptance, and that the project is constructed in accordance with the approved plans, specifications, and change orders.

Discussion:

To insure adequate performance by all equipment vendors and construction contractors, the reviewing agency must provide for sufficient monitoring of construction activities. The reviewing agency's monitoring program should begin with a preconstruction conference, extend through interim construction monitoring activities, and conclude with a final inspection. The extent and frequency of monitoring will depend on the size and complexity of the project, and the needs and performance of the grantee, the resident inspection team, and the construction contractors. The agency performing the monitoring activities will be designated in the State/EPA delegation agreement, with monitoring activities carried out by the State, EPA and/or the U.S. Army Corps of Engineers (COE). In some States, one of these agencies has been given the responsibility for all monitoring activities, while in others, two or all three agencies share this responsibility. Each agency is to follow the detailed monitoring procedures in the State/EPA delegation agreement and/or the EPA/COE interagency agreement.

To assist reviewing agencies in carrying out a thorough and efficient monitoring program, EPA has prepared two guidance documents which include a complete discussion of the specific actions to be undertaken during construction monitoring: "Operating Procedures for Monitoring Construction Activities at Projects Funded under the Environmental Protection Agency's Construction Grants Program," dated September 1983, and "Construction Management Evaluation and Project Management Conference Manual," dated December 1983. The documents should be used in conducting onsite construction monitoring activities. However, reviewing agencies must also maintain off-site (i.e., in the reviewing agency's office) construction monitoring through the review of payment requests, inspection reports, change orders, correspondence, and telephone communications. This information, when compared with the project schedule in the grant agreement, will provide an indication of the adequacy of construction progress, and may form the basis for changing the frequency of onsite monitoring activities. The reviewing agency is to insure that the grantee also submits quarterly reports (EPA Form 6005-1) concerning the use of minority and women's business enterprises (MBE/WBE).

For construction monitoring activities to be effective, it is essential for the monitoring staff to carefully review the project files for factual information prior to conducting onsite monitoring activities, to carefully document all deficiencies observed, to submit completed monitoring reports promptly, and to take follow-up action to insure the correction of all deficiencies. The procedures below briefly highlight the key activities which take place during construction monitoring, but are not intended to be a substitute for the detailed procedures in the two guidance documents discussed above, and in the delegation and interagency agreements.

Procedures:

1. Preconstruction Conference

After the award of construction contracts, the reviewing agency is to insure that the grantee arranges a preconstruction conference. This conference may be conducted separately by the grantee, or in combination with a preconstruction conference conducted by DOL's Equal Employment Opportunity Office (generally conducted only on projects of $1 million or more). Where the reviewing agency plans to conduct a PMC (see Item 2 below), the preconstruction conference should concentrate on construction activities which directly involve the construction contractors. In addition to defining the role of the reviewing agency and establishing procedures and responsibilities for interim inspections, typical items to be clarified during the conference are:

a. points of contact for all parties;

b. lines of authority and responsibility;

c. interrelationships among the grantee, the engineer, the construction contractors, the equipment suppliers, the State, the COE, and the EPA Regional Office;

d. periodic progress meetings;

e. access to the work for interim inspections;

f. insuring adherence to the construction schedule, and notification procedures for excusable delays;

g. flow of documents such as payment requests, change orders, and inspection reports;

h. change order review and approval process;

i. payment process, including development of payment schedules;

j. contractor responsibilities with regard to the project sign, posting of wage rate determinations, compliance with the requirements of DOL's Occupational Safety and Health Administration and the U.S. Equal Employment Opportunity Commission, and compliance with EPA's requirements for MBE/WBE and small business subcontracting;

k. need for adequate documentation of the grantee's procurement procedures and project costs; and

l. EPA and State audit requirements.

When the grantee conducts the preconstruction conference, the reviewing agency should participate and insure that the items listed above are discussed.

2. Project Management Conference

A PMC, which may be held immediately following the preconstruction conference, should be conducted on virtually all Step 2+3 and Step 3 projects. The primary purpose of the PMC is to provide detailed guidance to the grantee and the construction management team in overseeing and managing the construction grant. A PMC generally should take one to three days to complete, and can be conducted by either one person or a team, depending on the size and complexity of the project. The points of primary focus are:

a. grant management by the grantee:

    i. regulatory requirements, including procurement procedures and property control;

ii. special grant conditions (see Section VI.M.6);

iii. resident inspection;

iv. recordkeeping (both fiscal and correspondence), including the need for adequate documentation of procurement procedures and project costs;

v. project performance certification; and

vi. project closeout procedures, including EPA and State audit requirements;

b. construction management activities:

i. the engineer's responsibilities and authority, including review of as-built and shop drawings;

ii. resident inspection activities, including insuring conformance with the approved plans and specifications, daily logs, and materials testing;

iii. insuring adherence to the construction schedule;

iv. progress payments; and

v. change order procedures.

Re: EPA publication, "Construction Management Evaluation and Project Management Conference Manual," December 1983

3. Interim Inspection

Interim inspections are essential to insure that the grantee, the construction management team, and the construction contractors are fulfilling their respective responsibilities. The frequency of interim inspections should be determined by the size and complexity of the project, the rate of progress being achieved, and the nature of problems or issues arising during construction. Each project should normally be inspected monthly, but where a project is progressing well and the grantee has demonstrated a high level of project management capability, bimonthly or quarterly inspections may suffice. In unusual cases, such as extremely large, complicated, or troublesome projects, weekly or even daily inspections may be necessary. Regular interim inspections may also provide an opportunity to focus on one specific area at a time, such as materials testing, fiscal records, project files, procurement, management of claims and change orders, etc. Using this approach, all significant aspects of grant management should be covered over the life of the project. Where necessary, unannounced interim inspections may also be conducted, based on the findings of earlier inspections or other information brought to the attention of the reviewing agency.

Principal areas of focus during interim inspections typically include:

a. grant management and recordkeeping;

b. compliance with grant and permit conditions;

c. contract administration, including claims and change order management;

d. construction inspection activities and records, including verification of work in place, material testing, and replacement of defective work; and

e. implementation of the plan of operation, including preparation of the O&M manual.

Re: EPA publication, "Operating Procedures for Monitoring Construction Activities at Projects Funded Under the Environmental Protection Agency's Construction Grants Program," September 1983

4. Construction Management Evaluation

A CME is a comprehensive onsite review of the entire project, including all phases of the grantee's and contractor's responsibilities and performance. It is a more formalized inspection procedure than an interim inspection, and differs primarily in the depth, duration, and purpose of the review. A CME typically ranges from 4 to 5 days for a medium sized project, up to 10 days for a large multi-contract project, and is generally conducted when the project is 40 to 60 percent complete (20 to 40 percent if a PMC has not been conducted).

The CME is conducted by a multi-disciplinary team, with one member serving as the team leader. Team members must be experienced in their areas of investigation, so that they can detect inefficiencies and irregularities, and assist the grantee in the successful completion of the project, including preparation for project startup, operation, and audit.

A CME should begin with a formal entrance briefing, conclude with an exit briefing, and be followed by the preparation of a CME report. The objective of the CME is to evaluate the grantee's grant management procedures, and through this process gain insight into overall program management. Typical areas of review include:

a. Grant Management

   i. grant requirements,

   ii. procurement requirements,

   iii. accounting systems, and

   iv. recordkeeping systems.

b. Construction Management

   i. inspection reports,

   ii. materials testing and certificates,

   iii. shop drawings;

   iv. as-built drawings;

   v. progress payments,

   vi. claims,

   vii. change orders,

   viii. correspondence,

   ix. labor requirements, and

   x. organizational requirements.

At the conclusion of the CME, a formal report is prepared under the direction of the team leader. A typical report will will average 10 to 20 pages, and will generally be divided into five parts: introduction, grant management, construction management, action items, and conclusions. Of particular importance are the action items, which may include actions by the grantee to correct deficiencies; actions to be undertaken by the reviewing agency to insure the successful completion and audit of the project; and actions to be taken by EPA to improve its regulations, guidance, or procedures to prevent similar problems on future projects.

Re: EPA publication, "Construction Management Evaluation and Program Management Conference Manual," December 1983

5. Final Inspection

A final inspection is generally made within 60 days after the grantee notifies the reviewing agency that the building of the project has been completed. The grantee must also notify the reviewing agency of the actual date of initiation of operation, which represents the beginning of the one year performance period, at the conclusion of which the grantee must certify whether or not the project meets its performance standards. The depth and duration of a final inspection will depend, to a large extent, on the quality and frequency of earlier onsite monitoring inspections. The purpose of the final inspection is to verify that the project has been completed in accordance with the approved plans, specifications, and change orders; that all grant conditions and other regulatory requirements have been satisfied; that the project is operable; and that the grantee is prepared for audit. Once these conditions have been verified, the final building payment is to be made to the grantee (see Section VIII.D.4). During final inspection insure that:

a. construction has been completed and conforms with the approved plans, specifications, and change orders;

b. all grant conditions have been satisfied;

c. all equipment has been delivered and installed, and is operating properly;

d. all equipment manuals, guarantees, and warranties have been assembled;

e. all deficiencies noted during interim inspections have been corrected;

f. records are complete and readily available for audit;

g. the user charge (UC) system and sewer use ordinance (SUO) have been enacted by municipal ordinance, and are being implemented and enforced by all participating municipalities;

h. the plan of operation has been implemented, including the hiring and training of all personnel;

i. the O&M manual is complete and usable, and copies are readily available for operating personnel;

j. laboratory facilities are complete, stocked with required supplies, and ready for use in monitoring operations;

k. all change orders have been completed and summarized, and all claims have been satisfactorily resolved;

l. aesthetic features, flow level, and abandoned, unused, or inoperable facilities are noted, for use in preparing the project officer certification (see Section VIII.D.8);

m. a property management system is in place;

n. the title to eligible land includes language which protects the Federal interest in such land (see Sections VI.H.3.b and VI.M.5.d).

o. continuing engineering services during the first year of operation have been procured and are being carried out;

p. final cut-off date for incurring allowable project costs, except for continuing engineering services during the first year of operation, has been established; and

q. any related projects, such as sewer system rehabilitation or other project phases or segments, are on schedule.

Re: 40 CFR 35.2208, 35.2216, 35.2218; EPA publication, "Operating Procedures for Monitoring Construction Activities at Projects Funded under the Environmental Protection Agency's Construction Grants Program" September 1983

H. MANAGEMENT OF CLAIMS AND CHANGE ORDERS

Purpose:

Insure that changes to the original contract documents are necessary, reasonable, and managed in such a way as to maintain the project's integrity, schedule, and costs.

Discussion:

A change order is a written document, issued by the grantee to a contractor, which alters the price, time of completion, or any other requirement of the original contract documents, but does not increase the scope of work of the contract. Change orders may originate from the contractor as a proposal or claim, or may be initiated by the grantee. Historically, the lack of change order management has caused considerable delay, increased costs, and in some cases, lengthy and costly litigation. This section discusses change orders for construction contracts. Change orders for contracts for professional services are discussed in Section C.8 above.

To be eligible for grant participation, the change addressed in the change order must be within the scope of the project. The scope of the project is the work necessary to construct the facility described in the approved facilities plan. If the change is within the scope of the project, but outside the scope of work of existing contracts on the project, the work required by the change must be procured as a separate contract through formal advertising procedures, (see Section D above), unless the procedures described in Section E or F are appropriate. However, where the work required by the change is within the scope of the project and the scope of work of an existing contract, a change order may be issued to the contractor, and the price of the change negotiated as an equitable adjustment to the contract.

Management of change orders by the grantee and the grantee's construction management team is one of the principal areas of discussion and review during the preconstruction conference and the PMC. Regulatory provisions concerning project changes have been included in all EPA funded projects, and are identified in 40 CFR 33.1030, Paragraphs 3 through 9, for grants awarded on or after May 12, 1982; comparable provisions are included in 40 CFR Part 35, Subpart E, Appendix C-2, for grants awarded prior to May 12, 1982.

It is the reviewing agency's responsibility to insure that the grantee has an operating change order management system in place, and that the grantee reviews and acts upon all change orders promptly. All State agencies, and particularly those with delegation agreements, have developed detailed change order review checklists and reviewing procedures. These established procedures should be followed. In order to prevent costly delays, a strong effort should be made to review all change orders and issue approval/denial decisions promptly.

EPA's guidance document, "Management of Construction Change Orders - A Guide for Grantees," March 1983, includes a chapter entitled "Reviewing Agency Procedures." Review of change orders is also discussed in EPA's "Construction Management Evaluation and Project Management Conference Manual," December 1983.

Procedures:

The procedures discussed below highlight considerations to be taken into account by the grantee in managing claims and change orders, and by the reviewing agency during the processing of change orders:

1. Conditions that May Warrant a Change Order

The six conditions below are those which are most frequently encountered as the basis for a change order. The reviewing agency must carefully evaluate the circumstances surrounding the change and compare the proposed change against the original contract documents, including the plans and specifications. In some cases, the contractor may be entitled to a change order under State contract law, but the change may be ineligible for EPA grant assistance.

a. Differing Site Conditions

When bidding, contractors generally investigate site conditions and review information in the contract documents such as soil boring logs, quantities of rock, depth to groundwater, etc. After initiating construction, if the site conditions significantly differ from those described in the contract documents or differ from those normally encountered in construction, the contractor may be entitled to a change in the contract price. Judgement is required to determine whether the contractor should have anticipated the conditions as a normal risk in bidding the the project.

b. Errors and Omissions

Errors and omissions are usually design or drafting deficiencies in the plans and specifications. Where the error or omission would normally have been included in accurate plans or specifications, and can be added to the contract at approximately the same cost as the work would have cost if included in the original bidding documents, the change order may be considered an allowable cost. If the error or omission results in reconstruction or other additional effort beyond that which would have been required if the work had been included in the original bidding documents, the cost of such additional work will not be allowable. In such cases, the grantee may seek redress from the designer or other responsible parties. See Section IX.F.4, Paragraph A.1.g (2)(i), for an additional discussion of the allowability of the cost of correcting errors and omissions.

c. Regulatory Changes

At times, new laws or regulations are enacted by the local, State, or Federal government requiring retroactive application of new requirements (e.g., revised State water quality or design standards). Where applicable, such statutory or regulatory changes may warrant a change order, which may be considered an allowable cost.

d. Design Changes

A design change is a modification to an existing adequate design. In order to be approved, it should be cost effective and offer a net life cycle savings (i.e., including future O&M costs). Design changes usually originate as proposals from a construction contractor, based on the construction incentive (CI) clause (see Section V.C.1.v). Where a design change other than a CI proposal represents a substitution of equipment or material, care should be exercised to insure that the non-restrictive specifications or sole source procurement provisions are not violated.

e. Overruns and Underruns

Bids for materials are often based on estimated quantities and unit prices. Actual quantities will usually differ, and the contract price will be adjusted accordingly. Care must be exercised to insure that quantities are continually monitored and where possible, significant overruns are avoided. Many specifications contain a clause which allows unit prices to be renegotiated if the final quantity differs from the estimated quantity by 15 percent or more. (The term "renegotiated" is traditionally used, even when the original price was bid, rather than negotiated.)

f. Time of Completion

Because of the potential for claims and possible litigation, special care must be exercised in this area. Claims may arise with regard to the time of completion because the contract provides for the assessment of liquidated damages against the contractor if the contract completion date is not met. Liquidated damages assess the contractor a specific dollar amount for each day of delay beyond the contract completion date to cover the grantee's extra costs (see Section IX.F.4, Paragraph A.3.a). However, the contract completion time may be extended for cause (e.g., work added by change orders, unusually adverse weather conditions, etc.) by the grantee, thereby reducing or eliminating the assessment of liquidated damages.

Conditions which may arise with regard to the time of completion include termination (either for convenience or for default), suspension of work, directed acceleration, time extensions or constructive acceleration. Each condition has its own inherent problems, and very often their use will be guided by existing State law.

A change order which merits an extension of the contract completion date must include a provision for an appropriate extension of that completion date. (When no time extension is required, the change order should clearly document that both the grantee and the contractor agree that no extension is needed.) Such changes will usually extend the time of project completion beyond the end of the grant budget period, in which case the change will also require the preparation of a formal grant amendment.

Re: 40 CFR 33.1030; 40 CFR Part 35, Subpart I, Appendix A, Paragraphs A.1.f, A.1.g, and A.2.c.

2. Claims

When a disagreement arises between a contractor and a grantee, a claim can result. If such claims are not addressed promptly and in an objective manner, costs can escalate dramatically, especially if the dispute leads to arbitration or litigation. For this reason, it is imperative that grantees develop and apply management techniques for the avoidance and quick resolution of claims. When a claim is made, the grantee should attempt to resolve the claim as promptly as possible, either by negotiating a change order if warranted, or by notifying the contractor that the claim has been evaluated and found to be without merit.

a. Common Causes

Claims most frequently result from the conditions listed in Item 1 above, and less often from other more unusual circumstances.

b. Prevention

A grantee must insure that good management practices are employed throughout the project cycle, even when tasks are performed by others (e.g., grantee's engineer), since the grantee remains solely responsible for the planning, design, construction, and operation of the treatment works. Specific management techniques that have been shown to prevent or at least minimize the occurence of claims can be found in the "Claims Prevention" section of the EPA publication, "Claims Management Guidance," September 1984. While all of the practices noted in that section are important to know and apply, grantees should be particularly encouraged to follow the practices listed below, which have been found to be critical to a well-managed project:

i. Insure that a fully adequate subsurface investigation is made, and that the results of the investigation are included in the final plans and specifications (see Section V.C.2.cc).

ii. Maintain close management control over the construction project, and act quickly to resolve problems at the time they arise.

iii. Insure that the plans and specifications are biddable and constructible (see Section V.C.3), that all conflicting language has been removed, and that all ambiguities have been clarified prior to advertising for bids.

iv. Specify an adequate construction schedule commensurate with the complexity of the project.

v. Insure that the schedule provisions are enforced, that the schedule is periodically reviewed, and that revisions are made (by change order) whenever circumstances justify the extension of the schedule dates.

c. Resolution

After a claim is filed, the grantee must insure that everything possible is done to address the issues raised, and to mitigate the future costs of the claim. This usually entails making a thorough analysis of each issue raised by the claim, and negotiating a fair and equitable settlement of the meritorious portions of the claim, if any. Grant funding is available for assessment and negotiation costs, but only if prior approval is received from the reviewing agency. A list of good management practices leading to quick and effective resolution of claims may be found in the "Claims Resolution" section of the EPA publication, "Claims Management Guidance," September 1984.

d. Allowable Costs

Certain claim related costs are allowable, provided that the proper procedural steps have been followed. A detailed analysis and explanation of the pertinent regulations may be found in the "Claims Allowability" section of the EPA publication, "Claims Management Guidance," September 1984. In summary, the following rules apply:

i. The reasonable costs of independent assessment and negotiation of costs (including legal, technical, and administrative costs) are allowable, but only if prior approval is received from the reviewing agency and certain other conditions, discussed in the "Claims Management Guidance," are met.

ii. Meritorious contractor claims are allowable, provided that all the rules of change order approval have been met, and the costs were not caused by the grantee's mismanagement or vicarious liability for the improper actions of others (see Section IX.F.4, Paragraph A.1.f, A.1.g, and A.2.c).

iii. The reasonable costs (including legal, technical, and administrative costs) of defending against a claim, or of prosecuting a claim to enforce a subagreement, are unallowable unless six specific conditions, discussed in the "Claims Management Guidance," are met, and prior approval is received from the reviewing agency.

A grantee may request technical or legal assistance from the reviewing agency. Such assistance may be provided, but generally is given only after all possible sources of assistance at the local level have been exhausted.

Re: 40 CFR 35.2350; 40 CFR Part 35, Subpart I, Appendix A, Paragraphs A.1.f, A.1.g, and A.2.c

3. Prior Approval

Minor changes in the project work, consistent with the objectives of the project and within the scope of the grant agreement, do not require a formal grant amendment. Prior approval by formal grant amendment is required for changes (either by change order or by initiating a new procurement action) which:

a. increase grant funding (i.e., require additional funds beyond that provided in the contingency allowance);

b. transfer the project to another grantee (includes a reorganization which forms a new unit of government to build and/or operate the project);

c. alter the project performance standards;

d. alter the type of wastewater treatment provided by the project;

e. significantly delay or accelerate the project schedule;

f. substantially alter the facilities plan, design drawings and specifications, or the location, size, capacity, or quality of any major part of the project; or

g. require rebudgeting of amounts from one activity to another (e.g., from construction to non-construction activities, from indirect costs to direct costs, from employee training to another cost category, etc.).

Re: 40 CFR 30.700, 30.705, 35.2204

4. Submission

Change orders, other than those involving a formal grant amendment as discussed in Item 3 above, do not have to be submitted to the reviewing agency prior to execution and implementation, regardless of whether or not the grantee has a certified procurement system. However, grantees should be encouraged to submit all change orders to the reviewing agency in a timely manner, since eventually, any cost increases (using part of the contingency allowance) or decreases will have to be reconciled with the existing project grant to determine the final grant amount. Also, it is to the grantees advantage to have allowability of costs determined by the reviewing agency prior to project closeout, to provide a basis for the review of project costs by EPA's Office of the Inspector General (OIG).

Except for grantees whose certified procurement systems include provisions which meet the intent of EPA's change order requirements, all grantees must conduct a cost or pricing analysis for negotiated change orders exceeding $10,000, with profit negotiated as a separate element of the price, and obtain cost or price data from the contractor using EPA Form 5700-41, or a similar format which provides the same information. The cost or pricing analysis need not be submitted to the reviewing agency, but must be maintained in the grantee's files for review by the reviewing agency if desired.

Re: 40 CFR 33.235, 33.290, 35.2204; 40 CFR Part 33, Appendix A

5. Change Order Review

Prior to change order approval, the reviewing agency is to insure that:

a. Justification of the need for the change order has been documented, and includes an evaluation of alternate ways of achieving the same objective.

b. A comparison has been made between the change order and the approved contract's scope of work, including plans and specifications, and the model change order clauses in the contract documents.

c. A method has been established for determining the price of the change order, and any additional time required for contract completion, including grantee/contractor negotiations, price or cost analysis, and comparison with the engineer's independent estimates.

d. The effect of the change order on other structures and items of equipment (secondary effects), the additional cost of extended engineering inspection services, and the additional O&M costs over the useful life of the project have been determined.

e. The effect of the change order on the quality of the work, including the project performance standards and the capacity of the treatment works, has been determined.

f. The change order will not circumvent EPA's procurement regulations, including the requirement for competitive equipment specifications.

g. A comparison with the reviewing agency's on-site inspection reports has been made.

h. The reviewing agency's legal counsel has reviewed the change order.

i. The change order requires prior approval and/or the preparation of a formal grant amendment before implementation.

j. The cost of the change order is allowable for grant participation, or a percentage of the change order is allowable, excluding costs associated with reserve capacity (see Section VI.D.18).

Re: 40 CFR 30.700, 30.705, 33.1030, 35.2050, 35.2204; EPA publication, "Management of Construction Change Orders - A Guide for Grantees," March 1983

I. POST-CONSTRUCTION ACTIVITIES

This section is concerned only with engineering services during the first year of operation and the project performance certification. Section G.5 above discusses the final project inspection. Closeout of projects is discussed in Section VIII.D.

1. Engineering Services during the First Year of Operation

The 1981 CWA amendments require that the grantee procure the services of the engineer or firm that provided engineering services during construction, or the engineer or firm that supervised construction, to assist in operating the project during its first year of operation. The term "construction" includes planning, design, and engineering services during the building of the project, and is not to be confused with the term "building," which includes only Step 3 activities. These terms are defined in 40 CFR 35.2005(b)(8) and (b)(13).

The 1981 CWA amendments use the term "supervise," whereas the regulations use the work "direct," when referring to the services to be provided by the engineer. The word "direct" better reflects the intent of the services, since it does not imply a daily "in charge" presence at the treatment works, nor a role as employee supervisor or chief operator.

a. Scope of Engineering Services

The regulatory requirements for the scope of engineering services during the first year of operation are described in Section C.5.b above. In essence, the engineer is to direct the operation of the treatment works, particularly with regard to problems which develop; revise the O&M manual to reflect actual operating experience; train employees; and provide engineering advice to the grantee as to whether the treatment works is meeting the project performance standards.

The intent of these requirements is that the engineer with the most experience in the planning, design, and building of the project will utilize this expertise to help the grantee insure that the project meets its performance standards. The engineering services will normally include reviewing laboratory procedures, including the frequency and results of tests to control unit process operations; recommending ways to maintain appropriate levels of solids or dissolved oxygen in the aeration tanks; determining the best conditions for the withdrawal of sludge from the digesters; etc.

Engineering services are also required for projects which include only sewers (collection, trunk, and/or interceptors) and pumping stations. Such services will be less extensive than those required for a treatment plant, but will typically include:

i. for pumping stations, periodic site visits to check operations (e.g., to insure that float control mechanisms are operating properly, that pump cycling is the most efficient, that seals are properly maintained and not leaking, etc.);

ii. for sewers, opening and inspecting manholes to observe signs of surcharging or sand deposits; after storms, checking for inflow or flooding; etc. If the project included rehabilitation of sewers to eliminate excessive I/I, the engineering services may also include a limited amount of flow monitoring at sites within the collection system, to supplement flow measurements at the treatment facility.

Engineering services during the first year of operation, therefore, are those necessary to insure the efficient operation of the treatment works project, and are directed toward achieving compliance with the project performance standards. The extent of such services will vary from project to project, depending on the size, type, and complexity of the project and the needs of the grantee's operating staff.

Re: 40 CFR 35.2218(b)

b. Procurement of Services

The scope of work for the engineering contract for inspection and supervision services during the building of the project should also include engineering services during the first year of operation. As an alternative, the grantee may procure the engineering services required for the first year of operation as the construction of the project nears completion. Regardless of the timing of procurement of engineering services, the procurement must be conducted in accordance with 40 CFR Part 33 (see Sections B, C, E, and F above). While a fixed price contract is acceptable, because of uncertainties during the first year, a cost-plus-fixed-fee type contract may be more appropriate.

c. Payment Requests

Payments for the Federal share of engineering services during the first year of operation are to be processed as discussed in Section IX.B. For fixed price contracts, payment is related to the completion of specific tasks. For cost-plus-fixed-fee contracts, payments are made as the work is completed (generally no more frequently than monthly).

d. Deficiencies

During the first year of operation, problems may develop with regard to equipment, unit processes, or deficiencies due to poor construction. The grantee is responsible for correcting such deficiencies, using appropriate means such as: invoking the provisions of equipment warranties, construction contractor performance bonds, and guarantees from the design engineer; initiating enforcement action against industrial dischargers; etc.

As a part of good project management, reviewing agencies should establish a program which tracks the performance of completed projects during the first year of operation. Such a program could include periodic onsite inspections and a review of monthly operation reports submitted by grantees. When onsite inspections or monthly reports indicate that a project is experiencing difficulties in meeting its project performance standards, the reviewing agency should work with the grantee and offer technical assistance or guidance as appropriate.

2. Project Performance After One Year

a. Certification

One year after the initiation of the operation of the project, the grantee is required to certify to the reviewing agency whether the project meets the project performance standards. Project performance standards are performance and operational requirements applicable to the project, including the enforceable requirements of the CWA, and the design criteria upon which the plans and specifications are based. For projects required to satisfy the enforceable requirements of the CWA, the performance standards include the design criteria (usually contained in the engineer's design report and/or the facilities plan) and the effluent limitations contained in the National Pollutant Discharge Elimination System (NPDES) permit (see Section II.D.2). For projects not required to satisfy the enforceable requirements of the CWA (e.g., sewers and pumping stations), performance standards include only the design criteria. For projects which include sewer rehabilitation, the quantity of excessive I/I to be eliminated is one of the project performance standards.

Project performance standards will normally have been established at the time of grant award, and should have been included in the grant agreement as a grant condition (see Section VI.M.5.g).

Where the grantee certifies that the project is meeting its project performance standards and where all grant conditions have been satisfied, the project may be prepared for audit and closeout (see Section VIII.D). If the grantee is unable to certify that the project is meeting its performance standards, the grantee must undertake corrective action as described in Item b below.

b. Corrective Action

If the reviewing agency or the grantee concludes that the project is not meeting its project performance standards, the grantee is required to submit the following:

i. a corrective action report which includes an analysis of the cause of the project's failure to meet the performance standards, and an estimate of the nature, scope, and cost of the corrective action necessary to bring the project into compliance;

ii. a schedule for undertaking, in a timely manner, the corrective action necessary to bring the project into compliance; and

iii. the scheduled date by which the grantee will be able to certify that the project is meeting its performance standards.

The reviewing agency is to insure that the proposed schedule is in conformance with, or will become a part of, the State-developed schedule for implementing EPA's National Municipal Policy. For a municipality whose project is not in compliance with its NPDES permit, this policy requires that the community prepare a composite correction plan (see Section II.D.1).

Except in the case of projects which qualify for a 100 percent grant for the modification or replacement (M/R) of a failed innovative or alternative (I/A) technology (see Section VI.J), or the extent allowed by EPA's policy on project additions (see Section IX.F.4, Paragraph H.1.d), the cost of preparing the corrective action report and undertaking the corrective action necessary to bring the project into compliance with the project performance standards is not eligible for grant participation.

Re: 40 CFR 35.2218(c) and (d); 40 CFR Part 35, Appendix A, Paragraphs H.1.d (3)(b), H.2.e, and H.2.1; EPA notice, "National Municipal Policy," 49 FR 3832 and 3833 (January 30, 1984)

CHAPTER VIII

COMPLETION, AUDIT, AND CLOSEOUT

A. INTRODUCTION

B. STEP 1 AND STEP 2 COMPLETIONS

C. STEP 2+3 AND STEP 3 COMPLETIONS

D. COMPLETION AND CLOSEOUT PROCESS

E. AUDIT PROCESS

A. INTRODUCTION

This chapter describes basic considerations for completing and closing out projects. It begins with a discussion of EPA's policies and procedures for completing and closing out Step 1 and Step 2 projects, all of which were awarded grant assistance prior to the enactment of the 1981 amendments to the Clean Water Act (CWA), which eliminated Step 1 and Step 2 grants. EPA's goal is to complete all Step 1 and Step 2 projects by September 30, 1985, and to do so without grant increases unless they are absolutely necessary.

Later sections describe the completion and closeout of Step 2+3 and Step 3 projects. The chapter concludes with a discussion of audits, including the resolution of audit exceptions.

Since the completion and closeout processes are based on internal administrative procedures rather than EPA regulations, there are relatively few regulatory citations in this chapter. Therefore, although the procedures and sequence of events described in this chapter represent basic considerations for completing and closing out projects, specific step-by-step procedures are to be developed by the EPA Regions and the delegated States.

Section B, Step 1 and Step 2 Completions, describes EPA policies and goals concerning the completion of Step 1 and Step 2 projects, and includes guidance on the level of review, the conditions under which the work effort should be reduced, and the conditions under which a grant increase should be awarded.

Section C, Step 2+3 and Step 3 Completions, describes considerations for completing construction projects, with particular emphasis on pre-1982 projects involving phased or segmented treatment works or sewer system rehabilitation.

Section D, Completion and Closeout Process, describes activities leading up to closeout, including final inspection, cutoff date, documentation, payments, property management, delays, engineering services, project officer certification, and file retention.

Section E, Audit Process, describes procedures for requesting and performing audits, and for resolving audit issues.

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B. STEP 1 AND STEP 2 COMPLETIONS

Purpose:

Complete Step 1 and Step 2 projects by September 30, 1985.

Discussion:

The 1981 CWA amendments eliminated the award of Step 1 and Step 2 grants after December 29, 1981. It is EPA policy to make every effort to complete all Step 1 and Step 2 projects (except large, complicated, or involved projects) by September 30, 1985. In so doing, reviewing agencies are to insure that all applicable regulatory requirements and EPA policies in effect on the date of grant award are satisfied, and that all grant conditions contained in the grant agreement are fulfilled. All of these projects are subject to EPA regulations contained in 40 CFR Part 35, Subpart E. However, since Subpart E has been amended several times over the years, EPA has published the "Regulation and Policy Matrix - A Guide to the Rules Governing Grants Awarded under the Construction Grants Program," dated December 1983, to assist project reviewers in identifying the regulations and policies applicable to earlier projects. The "Regulation and Policy Matrix" includes a summary of all revisions to 40 CFR Parts 30, 33, and 35, as well as all other EPA regulations and policy documents which pertain to the construction grants program. This publication should be consulted to identify the applicable regulations and policies in effect on the date of grant award.

In completing Step 1 and Step 2 projects, problems can arise with respect to requests for grant increases, evaluation of a project's likelihood for receiving a future grant, and the depth of review, primarily with regard to facilities plans. In all cases, every effort should be made to complete the project within its existing budget, without a grant increase, and in accordance with any applicable compliance schedule.

Step 1 and Step 2 projects must be completed in conformance with the approved scope of work in the grant agreement and the regulations which were in effect at the time of grant award, and are subject to audit to insure that these requirements have been met (see Section E below). It is therefore essential that project files document how decisions were made, and that proper value was received for the funds expended.

Review Procedures:

1. Step 1 Projects Completed or near Completion

   a. Projects Likely to Receive a Step 2+3 or a Step 3 Grant

      i. Review the facilities plan against all applicable regulations and grant conditions.

      ii. Complete the environmental review.

      iii. Advise the grantee to apply for a Step 2+3 grant, to request an advance of allowance for design work, or to undertake design using local funds, whichever is applicable.

      iv. Make the final payment and administratively complete the project up to the point of audit request, but do not request an audit unless unusual conditions warrant it (see Item 6 below).

   b. Projects Unlikely to Receive a Step 2+3 or a Step 3 Grant

      i. Review the facilities plan against all applicable regulations and grant conditions to insure that all required items are present and complete (see Item c below).

      ii. Limit review comments to those that are substantive or will affect the plan recommendations.

      iii. Require the grantee to perform only the work necessary for conformance with the applicable regulations and grant conditions.

      iv. Prepare a letter to the grantee, identifying discrepancies which would have to be corrected by an addendum to the facilities plan if a grant were ever to be awarded in the future.

      v. Make final payment and administratively complete the project.

      vi. Request a final audit, if warranted (see Item 6 below).

c. Review of Facilities Plans for Completeness

In cases where a facilities plan is unlikely to result in the award of a Step 2+3 or a Step 3 grant, it is necessary for the facilities plan to be reviewed for completeness (see Item b above). The minimum requirements for completeness depend on the date of initiation of facilities planning:

i. Facilities Planning Initiated before May 1, 1974

Facilities plans initiated before May 1, 1974, may be approved under the regulations published on February 11, 1974, if a Step 2 grant was awarded before April 1, 1980. In those cases where facilities planning was initiated before May 1, 1974, but the project failed to receive a Step 2 grant before April 1, 1980, the facilities plan must comply with the requirements described in Item ii below.

Re: 40 CFR 35.917(c)

ii. Facilities Planning Initiated after April 30, 1974 and before October 1, 1978

If each of the following items is present and complete in a facilities plan which was initiated after April 30, 1974 and before October 1, 1978, the facilities plan can be considered complete for grant payment purposes:

- description of the treatment works for which construction drawings and specifications will be prepared, including design flow and analysis;
- description of the entire waste treatment system of which the proposed treatment works is a part;
- infiltration and inflow (I/I) documentation;
- cost effectiveness analysis of alternatives including renovation, upgrading operation and maintenance (O&M), and use of on-site or non-conventional systems;

- effluent discharge limitations and National Pollutant Discharge Elimination System (NPDES) permit number, if issued:
- comments or approvals of relevant State, interstate, regional, and local agencies;
- public participation summary;
- demonstration of the grantee's legal, financial, institutional, and managerial resources;
- resolution adopted by the grantee, accepting the facilities plan;
- statement regarding grantee compliance with the Civil Rights Act of 1964;
- municipal pretreatment program (if required by 40 CFR 35.907);
- estimate of total project costs and customer charges, which include both user charge (UC) rates and debt service costs;
- site availability and cost;
- environmental information document (EID); and
- fulfillment of all grant conditions.

Re: 40 CFR 35.917-1

iii. Facilities Planning Initiated after September 30, 1978

To be considered complete for grant payment purposes, a facilities plan which was initiated after September 30, 1978, must include all of the items described in Item ii above. In addition, each of the following items must be present and complete:

- analysis of innovative or alternative (I/A) treatment processes;
- analysis of net primary energy requirements; and
- description of potential recreational and open space opportunities.

Re: 40 CFR 35.917-1(j)

d. Step 1 Grant Increases

Grant increases may be awarded only to complete work included in the original scope of the grant as identified in the grant agreement, required by 40 CFR 35.917-1, and described in the plan of study. Examples of items which may warrant a Step 1 increase include:

i. cost overruns on cost-plus-fixed-fee contracts;

ii. archaeological surveys;

iii. sewer system evaluation surveys;

iv. necessary "onsite" studies;

v. higher grant share for the use of an I/A technology (see Section VI.L.2.d);

vi. management plans for sludge and residuals; and

vii. replanning attributable to changes in the CWA or its implementing regulations (e.g., definition of secondary treatment, ocean discharge, revised water quality standards, etc.).

e. Reduction of Work Effort

Grant increases should not be awarded for projects which are unlikely to receive a Step 2+3 or a Step 3 grant award. Where a grant increase is requested for such a project, the project should be reviewed with the intent of rescoping or reducing the work effort through one or more of the following mechanisms:

i. Reduction in Planning Area

Most applicable in rural areas, where work can be focused on population centers.

ii. Infiltration and Inflow

Apply current limitations for nonexcessive I/I (see Section IV.C.4.3), and reduce field monitoring or other labor intensive activities.

iii. Public Participation

Reduce the work effort and the number of meetings.

iv. Cultural Resources

Reduce the scope, complete only work in progress, and identify and document future work which would be required if a grant were ever to be awarded.

v. Need Survey

Consider eliminating house-to-house surveys.

vi. Alternatives

Reduce to only those which appear feasible, and consider the revised definition of secondary treatment or its equivalent (see Section IV.C.3.1).

vii. Treatment Facilities

Efforts in site planning and preliminary design can be eliminated.

viii. Sewer Design

Detailed sewer routes and profile work can be eliminated.

ix. Sludge Disposal

Reduce the number of alternatives and the level of detail at which the alternatives are evaluated.

x. Environmental Information Document

Reduce the scope of the EID to correspond with the reduced project scope.

2. Step 2 Projects Completed or near Completion

a. Projects Likely to Receive a Step 3 Grant

i. Review the plans and specifications and other required documents (e.g., UC system, sewer use ordinance (SUO), etc.) to verify compliance with the applicable regulations.

ii. Review the plans and specifications to determine the percentage of the construction work which would be grant eligible, and notify the grantee that only this percentage of the design cost is an eligible Step 2 cost.

b. Projects Unlikely to Receive a Step 3 Grant

i. Review Step 2 work against applicable regulations to insure that all items are present and complete. The biddability and constructability (B/C) review of plans and specifications (see Section V.C.3) will usually be omitted, but may be performed as a service to the grantee if the project is likely to proceed to construction without a Step 3 grant.

ii. Limit review comments to those that are substantive, or will affect the capacity, cost, treatment process, or other major items.

iii. Require the grantee to perform only the work necessary to complete work in conformance with the applicable regulations and grant conditions.

iv. Prepare a letter to the grantee identifying discrepancies which would have to be corrected if a grant were ever to be awarded in the future.

v. Review the plans and specifications to determine the percentage of the construction work which would be grant eligible, and notify the grantee that only this percentage of the design cost is an eligible Step 2 cost.

vi. Make final payment and administratively complete the project (see Section D.b below).

vii. Request a final audit, if warranted (see Item 6 below).

c. Step 2 Grant Increases

Grant increases may only be made to complete work included in the original scope of the grant. Examples of items which may warrant a Step 2 increase include:

i. cost overruns to cost-plus-fixed-fee contracts;

ii. archaeological surveys;

iii. additional environmental studies;

iv. redesign attributable to changes in the CWA and its implementing regulations (e.g., definition of secondary treatment, marine discharge waivers, revised water quality standards, etc.);

v. higher grant share for the use of an I/A technology (see Section VI.L.2.d);

vi. value engineering (VE) studies required by the regulations; and

vii. additional work on UC systems.

d. Reduction of Work Effort

Grant increases should not be awarded for projects which are unlikely to receive a Step 3 grant award. Where a grant increase is requested, the project should be reviewed with the intent of rescoping or reducing the work effort, through one or more of the mechanisms described in Item 1.e above.

3. Delayed Step 1 and Step 2 Projects

A delayed project is any Step 1 or Step 2 project where the work (i.e., facilities planning or preparation of construction drawings and specifications) has been delayed for an excessive period of time, generally for six months or more.

Grantees with delayed Step 1 or Step 2 projects should be notified that they will be expected to complete the scope of work described in the grant agreement. The notification should include a time frame for requiring the grantee to submit a revised project schedule, if one is needed.

4. Termination or Annulment

If a grantee cannot, or will not, meet the conditions of the grant agreement, its grant may be terminated or annuled in accordance with the regulations applicable at the time of grant award. Termination results in a financial settlement, and is reflected in a grant amendment. Annulment results in the repayment to the Federal Government of all funds previously paid to the grantee.

If the regulatory criteria for annulment are not satisfied, the grant may be terminated, based upon the grantee's failure to comply with the terms and conditions of the grant agreement. Negotiation of a termination agreement with the grantee is the preferable method of termination. However, if the grantee refuses to enter into a termination agreement, EPA may unilaterally terminate the grant. Upon termination, EPA must pay the grantee the Federal share of the allowable costs for non-cancelable obligations incurred by the grantee prior to the effective date of termination.

The reviewing agency should use its best judgment in determining the most effective approach for annulling or terminating grants and negotiating termination agreements.

All termination agreements should provide assurances that the Federal Government has received full value for the funds expended. Any termination agreement that is negotiated with a grantee must conform to EPA policies, regulations, and guidelines, and must be supported by factual data. All terminations require the concurrence of the Regional Counsel (or, in the case of Headquarters-awarded grants, the Assistant General Counsel for Grants). Additionally, all terminated and annuled grants are subject to audit (see Section E below). After completion of the audit process, these grants are closed out in the same manner as completed grants (see Section D.d below).

Re: For grants awarded prior to October 1, 1983, 40 CFR 30.920, 30.950; for grants awarded after September 30, 1983, 40 CFR 30.903 through 30.905

5. Other Step 1 and Step 2 Projects

The circumstances described in Items 1 through 4 above represent the most common conditions likely to be encountered for Step 1 and Step 2 projects. However, other less common circumstances may arise which do not fall within these categories (e.g., phased, segmented, Step 2+3, large, or complex projects). In these circumstances the reviewing agency must exercise judgement on a case-by-case basis, taking into account the availability of present and future grant funds, the State's priority system, the project's contribution toward improvement in priority water quality areas, and the likelihood of the grantee receiving a Step 2+3 or a Step 3 grant at some future time. As decisions are made for these projects, the integrity of the construction grants program must be maintained, and decisions must not circumvent the intent of the CWA (e.g., planning and design work for new projects should be accomplished under an allowance, not a grant).

6. Final Audit Requests

Before they can be closed out, all Step 1 and Step 2 projects must either be audited or be approved for closeout without an audit. Accordingly, a Step 1 or Step 2 project for which the claimed grant amount (i.e., the Federal share of allowable project costs) exceeds $250,000, and for which a Step 2+3 or a Step 3 grant is not expected to be awarded, should be forwarded to EPA's Office of the Inspector General (OIG) with a request for a final audit. In addition, at the beginning of each month, the reviewing agency should provide the OIG Divisional Office with a list of Step 1 and Step 2 projects for which the claimed grant amount does not exceed $250,000, as is done for Step 2+3 and Step 3 projects. Within 30 days of the receipt of this list, OIG will advise the reviewing agency, in writing, which of these projects will be audited and which can be closed out without an audit.

If a Step 2+3 or a Step 3 grant is expected to be awarded, a final audit for the Step 1 or Step 2 project should not be requested until all work on the Step 2+3 or Step 3 grant has been completed, unless overriding circumstances require an immediate audit.

C. STEP 2+3 AND STEP 3 COMPLETIONS

Purpose:

Complete Step 2+3 and Step 3 grants in a timely manner, in accordance with the project schedule.

Discussion:

All Step 3 grants awarded under 40 CFR Part 35, Subpart I must include a project schedule for key milestones, including the date of project completion and initiation of operation. Step 2+3 and Step 3 grants awarded under 40 CFR Part 35, Subpart E also should have included a project schedule, and although the regulations do not include a specific requirement for key milestones to be included in the schedule, these should have been included as a good management practice. Significant changes to all project schedules require reviewing agency approval and the preparation of a formal grant amendment (see Section VI.M).

Renewed emphasis is being placed on the timely completion of all Step 2+3 and Step 3 projects in accordance with their project schedules. Timely completion will result in the earliest possible achievement of water quality goals, and will allow projects to be efficiently managed and closed out.

The review procedures below address several problems associated with project completion and preparation for audit. The procedure for closing out projects is discussed in Section D.d below.

Review Procedures:

The subjects discussed below are those which have caused extended delays in completing projects. Each project, however, has its own unique characteristics which will require careful selection of the methods used to complete the project.

1. Project Schedule

Grant agreements for all projects must include a project schedule, and work must be accomplished in such a way as to maintain that schedule. Schedules should be reasonable, and must conform with other compliance or enforcement schedules, including those contained in court or State enforcement orders.

Requests for significant changes to project schedules must be critically reviewed, and only approved when necessary and when coordinated with other applicable schedules. Significant revisions to project schedules must be accomplished by formal grant amendment. Failure of a grantee to maintain a project schedule may form the basis for grant termination or annulment (see Section B.4 above).

Re: 40 CFR 35.935-11, 35.2040(b)(6), 35.2204, 35,2212, 35.2214, 35.2216; for grants awarded prior to October 1, 1983, 40 CFR 30.345-3, 30.900-1; for grants awarded after September 30, 1983, 40 CFR 30.700

2. Phased or Segmented Projects

One grant condition included in all phased or segmented projects, with the possible exception of very old projects, is a commitment from the grantee to complete the remaining phases or segments in order to make the treatment works, of which the phase or segment is a part, operational and in compliance with the enforceable requirements of the CWA. This commitment includes a schedule specified in the grant agreement, and must be accomplished regardless of whether grant funding is available for the remaining phases or segments. This schedule should also be incorporated into the grantee's NPDES permit.

All phased or segmented projects should be periodically reviewed by the reviewing agency to insure that the grantee is performing according to the schedule. Where this is not the case, and where negotiations with the grantee have failed to accomplish compliance with the schedule, enforcement action or action to initiate grant termination or annulment should be undertaken (see Section B.4 above).

Re: 40 CFR 35.2108, 35.2214

3. Sewer System Rehabilitation

Step 2+3 or Step 3 grant awards may have been made for projects which included both building of treatment facilities and rehabilitation of sewer systems. In some of these cases, the building of treatment facilities was completed, but the grantee was permitted to continue sewer system rehabilitation for a period of time after the treatment facilities became operational. The grant agreement for each of these projects contains a grant condition which requires the grantee to complete the rehabilitation on a schedule contained in the agreement.

A grantee whose project includes sewer system rehabilitation, and whose grant was awarded after December 29, 1981, is required to certify whether or not the project meets its performance standards after one year of operation (see Section VII.I.2.a), including the elimination of excessive I/I through rehabilitation. A grantee whose grant was awarded before December 29, 1981 is not required to certify the project's performance after one year of operation.

Reviewing agencies should periodically review all projects which include sewer system rehabilitation (with special emphasis on pre-1982 projects) to insure that the grantee is performing according to the schedule in the grant agreement. Where this is not the case, and where negotiations with the grantee have failed to accomplish compliance with the schedule, enforcement action or action to terminate or annul the grant should be undertaken (see Section B.4 above).

An alternative action which may be appropriate in some instances is the reduction in the allowable capacity of treatment facilities and interceptors to the equivalent of 120 gallons per capita per day (gpcd), based on the approved and allowable design flow. If this option is considered, care must be exercised that the project remains affordable, meets its NPDES permit requirements, and has received a deviation under the provisions of 40 CFR Part 30 (see Section IX.E).

Re: 40 CFR 35.2214

4. Special Grant Conditions

Many grant agreements contain special grant conditions (i.e., grant conditions unique to the project and beyond the regulatory requirements which apply to all grants). Such conditions may have addressed phased or segmented project completions, a sewer system rehabilitation schedule, enactment of ordinances forbidding connection to certain sewers (e.g., interceptors adjacent to environmentally sensitive or prime agricultural land), etc. (see Section VI.M.6).

Before any project can be completed, the reviewing agency must insure that all grant conditions have been fulfilled, with particular attention given to special grant conditions. Refusal by the grantee to fulfill all grant conditions may form the basis for grant termination or annulment (see Section B.4 above).

Re: 40 CFR 35.2200

D. COMPLETION AND CLOSEOUT PROCESS

Purpose:

Insure that projects are completed on schedule, that all applicable regulations and grant conditions have been satisfied, and that project records are complete and available for audit.

Discussion:

The process of project completion and closeout will include many, if not all, of the items discussed below in the review procedures, which are presented in the order in which events should occur. However, because of unique circumstances surrounding each project, the order of events may vary.

There are four major milestones in the completion and closeout process:

a. Project Completion

A Step 1 project is considered physically complete when the project reviewer determines that the scope of work contained in the grant agreement has been accomplished and is approvable. For projects not expected to receive a

Step 2+3 or a Step 3 grant, a Step 1 project is considered physically complete when it has met the minimum requirements listed in Section B.1.c above.

A Step 2 project is considered physically complete when the plans and specifications are either approved or judged approvable (i.e., accepted) by the reviewing agency. For projects not expected to receive a Step 3 grant, a Step 2 project is considered complete when it has met the minimum requirements listed in Section B.2.b above.

A Step 2+3 or a Step 3 project is considered physically complete when an official final inspection (see Item 1 below) determines that:

i. All but minor components of the project have been completed (e.g., landscaping) in accordance with the approved plans, specifications, and change orders.

ii. The facility is capable of functioning as designed.

iii. All equipment is operational and performing satisfactorily.

iv. Laboratory facilities are complete and available to conduct appropriate tests.

All administrative requirements need not be satisfied at the time of physical completion (e.g., final payment, change order approval, fulfillment of grant conditions).

For Step 1 and Step 2 grants, project completion and physical completion are synonymous. For Step 2+3 and Step 3 grants, project completion, physical completion, and construction completion are synonymous.

b. Administrative Completion

The administrative completion phase includes all activities occurring after physical completion of the project. These activities, which normally occur in the following order, include: satisfaction of all grant conditions, resolution of all claims, final building payment (excluding payment for engineering services during the first year of operation), completion of engineering services during the first year of operation, grantee's certification that the project meets its performance standards, receipt of the grantee's final grant payment request, and project officer certification. A project is considered administratively complete when a final audit is requested from OIG, or when the project is referred to OIG for a determination of whether or not an audit will be performed.

c. Audit Process

See Section E below for a detailed discussion of the audit process.

d. Project Closeout

The project closeout phase includes all activities which occur after the completion of the audit process (either the conduct of an audit, or a determination by OIG that the project can be closed out without an audit). The project closeout phase includes the resolution of audit issues and the final financial settlement, if any, with the grantee. A project is considered to be closed out when a final closeout letter has been sent to the grantee.

Review Procedures:

Once the final inspection has been completed (see Item 1 below), and the project has been found to be acceptable, the grantee may submit its final building payment request, for payment of 100 percent of the allowable cost of construction (less any previous payments). However, the grant cannot be closed out until the completion of the first year of operation, the certification by the grantee that the project is meeting its performance standards (see Section VII.I.2.a), the submission of the grantee's final grant payment request, and the submission of the project to to OIG for audit.

Projects are to be managed by reviewing agencies in such a way that project completion and closeout are accomplished as soon as possible. EPA Directive 2750 (April 20, 1984) states that audit resolution must occur within 180 days after completion of the final audit. The Office of Water Accountability System states that closeout is expected to occur within three months of audit resolution. These time based goals also apply to Step 1 and Step 2 closeouts. If a final audit is not required, closeout is expected to occur within six months of project completion.

The items discussed below are primarily post-construction activities, which must be completed before a project can be considered administratively complete. In practically all cases, reviewing agencies have developed checklists to be completed by the project reviewer, and forms to be completed by the grantee, which address these post-construction activities. These procedures, forms, and checklists should be used.

1. Final Inspection

A final inspection is requested by the grantee when building of the project has been completed. The final inspection is generally accomplished within 60 days from the date requested. The final inspection insures that the project is completed in accordance with the approved plans, specifications, and change orders, and that all necessary records are complete and available for audit (see Section VII.G.5). In addition, information is gathered at the final inspection which will allow the preparation, by the reviewing agency, of the project officer certification concerning flow level (75 percent or more of the anticipated initial flow), aesthetic features, and abandoned, unused, or inoperable facilities (see Item 8 below).

At the time of the final inspection, the reviewing agency will usually establish a cut-off date, after which any costs incurred by the grantee are unallowable for grant participation (see Item 2 below).

At times, a grantee may request a final inspection, but when the reviewing agency's inspector arrives at the project site, conditions exist (e.g., unsatisfied grant conditions, lack of flow data on which to base the project officer certification, etc.) which prevent the project from being considered administratively complete. In such cases, the inspection should be conducted, but the grantee should be informed, in writing, of the deficiencies which prevented the conduct of a final inspection, that the inspection which was conducted will be considered an interim inspection, that a final inspection will be rescheduled after the grantee informs the reviewing agency that the deficiencies which prevented the conduct of a final inspection have been corrected, and that the grantee's final grant payment will be withheld until the final inspection has been conducted.

Re: 40 CFR 35.2216

2. Cut-off Date

The establishment of a cut-off date is one of the actions required to ready a project for administrative completion. The basis for a cut-off date is found in the definition of the project's budget period in 40 CFR Part 30, since eligible project costs are limited to those incurred during the budget period. The budget period must start on or after the date of grant award, and must be consistent with the project schedule contained in the grant agreement.

A cut-off date may be established for the entire project or for individual subagreements. The cut-off date is the date by which all work and costs associated with a particular subagreement will have been incurred, and after which work or costs incurred are not allowable for grant participation. In very unusual circumstances it may be necessary to revise a cut-off date, if costs were incurred by the grantee due to circumstances beyond its control. Where a cut-off date is established, the "cut-off" letter to the grantee must clearly document the specific work or subagreement to which the cut-off date applies. This documentation will preclude misunderstandings during audit. For Step 1 and Step 2 projects, the "cut-off" letter should also remind the grantee that, since the 1981 CWA amendments prohibit the award of new Step 1 and Step 2 grants, any future revisions to the completed Step 1 or Step 2 project will have to be performed without EPA assistance.

The cut-off date is generally established at the time of final inspection, and usually with the agreement of the grantee. However, if the grantee will not agree to a cut-off date, the end of the project budget period should be used, since by regulation, no costs can be incurred after the end of the budget period. The cut-off date for all costs (except startup services and engineering services during the first year of operation) will usually coincide with the date of the final inspection, prior to which the grantee will normally have accepted the project from the construction contractor. If a project is essentially complete except for minor punch list items, the reviewing agency and the grantee may agree to a future cut-off date, by which time the contractor will have completed the punch list items.

Another cut-off date which must be established and documented in the project files concerns the termination of services provided by the engineer, including inspection, start-up, and supervision of the first year of operation. This cut-off date will almost always be established as one year after the initiation of operation for the project, to provide for continuing engineering services during the one year project performance period.

Once a cut-off date is established, the grantee should prepare cost summaries (relating to the work for which the cut-off date has been established) for submission to the reviewing agency (see Item 3 below).

<ins>Re</ins>: 40 CFR 35.2040(b)(6); for grants awarded
prior to October 1, 1984, 40 CFR 30.135-6;
for grants awarded after September 30, 1983,
40 CFR 30.200

3. Cost Summary and Documentation

The grantee is required to submit cost summaries for all costs incurred during the project. The cost summary for previous Step 1 or Step 2 projects which receive a Step 3 grant should be in the project files and available for audit. Cost summaries must be prepared for all categories of work identified in the grant application and the grant agreement, and typically include costs for:

a. administration,

b. subagreements for building the project,

c. engineering subagreements,

d. force account work,

e. land acquisition,

f. legal services, and

g. accounting services.

Cost summaries should identify the initial costs for each category of work and the final costs, including all change orders and adjustments to cost-plus-fixed-fee type contracts. If not previously submitted with a payment request or reviewed during the final inspection, documentation such as paid invoices or vouchers must be provided to support the cost summaries.

Construction contract cost summaries should be compared with cost data in the project files to verify that all change orders have been reviewed and acted upon by the reviewing agency, and that a final change order adjusting estimated quantities to actual quantities for unit price items is included. Cost summaries for services (e.g., engineering, legal, and accounting) should be compared against the original subagreement to insure that all services have been performed and that claimed costs are in agreement with direct costs, indirect costs, and profit items in the subagreement.

The unused portion of the construction contingency allowance is omitted from final project cost summaries and should be deobligated for use on other projects (see Section IX.C.2).

4. Final Building Payment Request

Processing of payment requests is discussed in Section IX.B. This section addresses only the final building payment. While this payment is referred to as the final building payment, since it represents the last payment for building the project, additional payments will be made during the first year of operation for appropriate engineering services (see Section VII.I.1).

Payments are made to the grantee during the course of the project for costs which have been incurred. When the grantee requests the final building payment, such payment is to be made promptly, and may only be delayed if it is determined that the payment request includes unallowable costs, or if information available or not available to the reviewing agency (e.g., a final inspection report or lack thereof) indicates a previous overpayment, a failure to comply with all grant conditions, or other irregularities.

If the grantee has received any grant related income (e.g., refunds, rebates, credits, etc.) such amounts are to be used to reduce the total project cost, thereby reducing the amount of the grant (see Section IX.B.10). Final payment is based on the cost summaries and supporting documentation discussed in Item 3 above.

Re: 40 CFR 35.2300(a) and (b); for grants awarded prior to October 1, 1983, 40 CFR 30.615-1, 30.620 through 30.620-3, 30.815; for grants awarded after September 30, 1983, 40 CFR 30.400(a) and (b)(3), 30.526, 30.802

5. Property Management

Grantees are required to have a property management system which identifies and traces property through its useful life or until disposal. The property management system must meet the minimum requirements in the regulations, and must include both personal property (e.g., movable equipment) and real property (e.g., land and structures).

Before a project is administratively completed, the reviewing agency must verify that the grantee has a property management system in place. The review of the property management system should take place during project monitoring, and should be completed before the final building payment is made.

Re: For grants awarded prior to October 1, 1983, 40 CFR 30.810 through 30.810-9; for grants awarded after September 30, 1983, 40 CFR 30.530(b), 30.531, 30.532, 30.535, 30.536

6. Completion Delays

Completion delays most often occur where there is an unresolved dispute between the grantee and the construction contractor, resulting in the contractor filing a claim for additional construction costs (see Section VII.H). Projects may not be considered administratively complete until the claim is resolved either through negotiation, arbitration, or litigation. The reviewing agency is to make every effort to assist the grantee in resolving disputes and may, at the grantee's request, provide technical or legal assistance. However, the primary responsibility for resolving disputes rests with the grantee. Costs associated with defense against contractor claims may be allowable for grant participation provided certain limitations are satisfied (see Section IX F.4, Paragraphs A.1.f and A.2.c).

The reviewing agency is to insure that unresolved disputes are settled as quickly and efficiently as possible.

Re: 40 CFR 35.2214, 35.2350

7. Continuing Engineering Services

A grantee which was awarded a Step 2+3 or a Step 3 grant on or after December 29, 1981, is required to retain the engineering firm which was principally responsible for providing engineering services during construction to also provide engineering services during the first year after initiation of operation (see Section VII.I.1). The project may not be considered administratively complete until the grantee affirmatively certifies, after one year of operation, that the project is meeting its performance standards (see Section VII.I.2). During the first year of operation, the engineer will submit invoices and the grantee will prepare payment requests in the routine manner (see Section IX.B.2.b). However, the cut-off date should have already been established as the date at the end of the first year of operation (see Item 2 above). The final grant payment, assuming affirmative certification by the grantee, will be made at the conclusion of the project performance period.

Re: 40 CFR 35.2216, 35.2218

8. Project Officer Certification

Prior to requesting a final audit, the reviewing agency is to prepare a project officer certification. This certification is to accompany the request for a final audit, and in essence confirm that:

- funds have not been used for unnecessary or unreasonable aesthetic features;

- the flow at the treatment facilities at the time of final inspection was 75 percent or more of the anticipated flow on the date of initiation of operation;

- no facilities constructed with grant funds are unused, abandoned, or inoperable; and

- the project files are complete and contain all relevant documents necessary for the conduct of an audit.

Detailed information on the four primary subjects of the project officer certification is provided below:

a. Aesthetic Features

Aesthetic features must be reasonable and necessary in order to be allowable for grant participation (see Section IX.F.4, Paragraph B.2.a). A determination of the allowability of aesthetic features should have been made during the review of plans and specifications (see Section V.C.2.u). If aesthetic features which were not included in the approved plans, specifications, and change orders are discovered during the final inspection, they will be considered unallowable unless otherwise justified.

Re: 40 CFR Part 35, Subpart I, Appendix A, Paragraph B.2.a

b. Flow Level

Before requesting a final audit, the reviewing agency is to determine whether the treatment facilities (including sewers) are receiving 75 percent or more of the estimated initial flow. If the flow is less than 75 percent, the reviewing agency is to determine the cause, and in preparing the project officer certification, note the exception to the flow level.

c. Abandoned, Unused, or Inoperable Facilities

For purposes of project officer certification, this section deals with observations at the time of final inspection. On-going State programs are required to address abandoned, unused, or inoperable facilities which occur after a project is closed out but before the end of the project's useful life.

If any equipment or facilities are abandoned, unused, or inoperable at the time of final inspection, the project officer is to prepare an explanation of the circumstances, which is to be attached to the project officer certification and forwarded to OIG along with the request for an audit. In such cases, grantees are required to seek redress from other parties (e.g., design engineer, construction contractor, equipment supplier, etc.) responsible for such conditions, and to make every effort to make the facilities useful and operational. Unless justified by the grantee, any abandoned, unused, or inoperable equipment will be considered unallowable for grant participation.

Re: 40 CFR 35.2214

d. Project Files

Project files must be organized to facilitate the location of documents during the project audit, and must contain adequate documentation to support grantee procurement actions and all project costs which have been claimed for grant participation.

9. File Retention

Grantees and their contractors must maintain their project files for a period of three years after final grant payment (i.e., the payment which is made after affirmative certification by the grantee that the project meets its performance standards).

Reviewing agencies will maintain project files for a period of three years after project closeout. At the conclusion of the three year period, project files are to be stored in the U.S. General Services Administration (GSA) Regional Federal Records Center in accordance with EPA/GSA federal records management requirements. Since the construction grants regulations now prohibit the use of grant funds for the replacement of a facility during its design life if the facility was constructed with grant assistance, it will be necessary to store at least part of the project file for the design life of the facility (normally 20 years).

EPA Regional Offices should establish a records tracking system which will facilitate the retrieval and restorage of project files.

Re: For grants awarded prior to October 1, 1983, 40 CFR 30.805; for grants awarded after September 30, 1983, 40 CFR 30.501

E. AUDIT PROCESS

Purpose:

Review grantee records, and if necessary those of its contractors, to determine whether the costs claimed under the EPA grant are reasonable, allowable, and allocable to the grant project; whether the management controls exercised by the grantee were adequate to insure that costs claimed are allowable; and whether the grantee has complied with all EPA regulations (including the appliicable procurement regulations) and grant conditions.

Discussion:

All completed construction grants projects are subject to a final audit. Audits may be conducted by EPA, by private sector or State auditors under contract to EPA, or by another cognizant Federal agency. Audits are generally performed after construction, and where Step 1 and Step 2 grants have been awarded, will include the review of records and costs for all three steps. Audits may also be performed at the conclusion of a Step 1 or Step 2 grant, but generally only in those instances where the project is unlikely to be awarded a Step 3 grant in the near future, or when unusual circumstances warrant an immediate audit.

The decision to conduct a final audit of the grantee's records will depend on the size and complexity of the project, and the amount of grant funds involved. (Audits are not usually conducted where claimed grant funds are $250,000 or less, unless information available to the reviewing agency suggests that a final audit is warranted.)

Historically, two problems arise during audits. The first problem concerns the identification of the regulations and policies which were in effect on the date of grant award, since audits may take place anywhere from 5 to 10 years after the initial grant award. In addition, a project which has progressed through the entire three step grant process may have different regulations and policies applicable to each of the three steps. In the case of phased or segmented projects, even more grants will be involved. To identify the regulations and policies in effect on the date of grant award, EPA has published the "Regulation and Policy Matrix - A Guide to the Rules Governing Grants Awarded under the Construction Grants Program," December 1983.

The "Regulation and Policy Matrix" traces the publication of all EPA regulations which have a bearing on procurement and allowable costs, from July 1, 1971 through September 30, 1983, and will be updated periodically. The publication also includes matrices for all EPA policy memoranda issued since January 1, 1970, as well as the two earlier editions of the Handbook of Procedures, the decisions of the Audit Resolution Board, and the decisions of the Board of Assistance Appeals. Wherever a question arises concerning regulations or policies in effect on the date of grant award, the "Regulation and Policy Matrix" should be consulted.

The second problem concerns the decision as to whether a particular cost is eligible or allowable under the construction grants program. EPA regulations, policy memoranda, and the Handbook of Procedures have, over the years, provided guidance for decisions concerning the most common allowable costs. However, by the very nature and sheer number of construction grant projects, it is not possible to anticipate all possible situations concerning allowable costs. Therefore, in those "gray" areas where such costs are not clearly defined in the applicable regulations or EPA policy documents, construction grants personnel are responsible for making such decisions. These decisions, and the rationale behind them, should be documented in the project files, to prevent misunderstandings at the time of audit.

Such documentation should explain the rationale for the decision and cite the specific regulation or policy which provided the broad or similar framework for the decision. Similarly, if an auditor takes exception to a cost not otherwise clearly defined in the regulations or EPA policies as allowable, such exception should also cite the specific regulation or policy which provides the broad or similar framework for the exception. By the proper use of the "Regulation and Policy Matrix" to identify applicable regulations and policies, and by the proper documentation and citation of specific regulations or policies, projects can be completed and closed out with a minimum of delay.

Final EPA decisions concerning allowable costs may be decided by the Audit Resolution Board if a difference of opinion cannot be resolved between OIG and the construction grants program.

The procedures below outline the major activities of the auditors, grantees, and construction grants staff in the audit process.

Procedures:

1. Request for Final Audit

After preparation of the project officer certification (see Section D.8 above), the reviewing agency will request an audit (or a determination that the project can be closed out without an audit) from OIG. This is the last action for administratively completing a project, and is requested when all of the following conditions have been met:

a. Construction is complete (see Section D.a above).

b. All administrative requirements have been satisfied (see Section D.b above).

c. The final inspection has been performed (see Section D.1 above).

d. The plan of operation has been implemented, or for projects awarded after December 29, 1981, the project performance certification has been received (see Section VII.I.2.a).

e. The "cut-off" letter has been issued to the grantee (see Section D.2 above).

f. The final grant payment has been requested (see Section IX.B.7).

The criteria for selecting projects to be audited (and for determining which projects can be closed out without an audit) are discussed in Section B.6 above.

2. Audit

Unless the OIG Divisional Office has determined that the project can be closed out without an audit, the cognizant audit agency will conduct an onsite audit of the grantee's records, followed by the preparation of a draft audit report. At the completion of the onsite audit, the auditor will conduct an exit interview with the grantee, and will provide an opportunity for the grantee to furnish additional documentation supporting any costs which have been questioned or set aside by the auditor (i.e., identified as unallowable for grant participation).

3. Draft Audit Report

The auditor will prepare a draft audit report for distribution to both the reviewing agency and the grantee. Audit exceptions are to cite the specific regulation or policy which forms the basis for the exception.

4. Final Audit Report

After evaluation of all comments received on the draft audit report, the auditor will prepare the final audit report for distribution to the grantee and the reviewing agency. In the absence of an appeal by the grantee, the project is then closed out, and the files are retained by the reviewing agency and subsequently shipped to the Federal Records Center (see Section D.9 above).

5. Resolution of Audit Exceptions

Audit exceptions, if any, are to be resolved between the reviewing agency and the auditors at the lowest possible level. The grantee should be involved in the resolution process, since the grantee's financial interests are involved. Decisions concerning the allowability of costs which are not clearly defined in regulation or policy (i.e., fall into the "gray" area) should have been previously made and documented by the construction grants staff. Unresolved issues are referred to the EPA Regional Administrator (or to EPA Headquarters in the case of Headquarters awarded grants). Where broad agency policy issues are involved, OIG may request a review by the Audit Resolution Board.

6. Review of Final Determination

If the grantee disagrees with the decision of the reviewing agency (other than a decision by the Audit Resolution Board), it may file a request for review of the decision in accordance with 40 CFR Part 30, Subpart L.

(Note: The procedures in Subpart L are applicable after September 30, 1983, regardless of when EPA awarded grant assistance.)

7. Recovery of Funds

When the audit reveals an overpayment of grant funds, and where this opinion is sustained in an appeal or other proceedings, the grantee is required to refund the amount of overpayment to the U.S. Treasury. The reviewing agency bears the primary responsibility for the recovery of the funds. Failure by the grantee to make payment within 30 days after receipt of the final determination will require the payment of interest on the unpaid debt.

Re: For grants awarded prior to October 1, 1983, 40 CFR 30.815; for grants awarded after September 30, 1983, 40 CFR 30.802

CHAPTER IX

FINANCIAL CONSIDERATIONS

A. INTRODUCTION

B. PAYMENTS

C. GRANT INCREASES AND DECREASES

D. DISPUTES

E. DEVIATIONS

F. DETERMINATION OF ALLOWABLE COSTS

A. INTRODUCTION

This chapter discusses financial considerations in the construction grants program, including disputes and deviations, which usually arise with regard to financial issues.

Section B, Payments, discusses outlay schedules, payment request forms, payments, payment limitations, retainage, and other items related to grant payments.

Section C, Grant Increases and Decreases, describes procedures for increasing and decreasing grants, and the circumstances under which they should be used.

Section D, Disputes, briefly describes the dispute resolution procedures available to a grant applicant or grantee when a disagreement occurs with the reviewing agency.

Section E, Deviations, briefly describes procedures for requesting and reviewing deviations from the grant regulations.

Section F, Determination of Allowable Costs, describes the Federal cost principles and their applicability, and reproduces the EPA regulations on the determination of allowable costs (40 CFR Part 35, Subpart I, Appendix A), supplemented by clarification and examples for specific cost items.

B. PAYMENTS

Purpose:

Insure that grantees receive reimbursement for project expenditures as promptly as possible, based on the receipt of adequately documented payment requests from the grantee, fulfillment of grant conditions, and satisfaction of payment limitations.

Discussion:

With the exception of certain eligible costs for relocation assistance (see Item 8.b below) and grants which are made only to States (see Items 8.c and 8.d below), EPA payments to grantees are made only on a reimbursement basis (i.e., payments are made only after costs have been incurred). The amount of the Federal payment is a percentage (i.e., the EPA grant share) of those eligible project costs which the grantee has incurred, and is currently and legally obligated to pay.

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It is the responsibility of the reviewing agency to insure that each grantee, prior to incurring eligible costs, is apprised of the payment procedures and of the documents needed to support payment requests.

Review Procedures:

Payment requests are to be promptly reviewed and processed in accordance with the procedures in the State/EPA delegation agreement. Typical items to be considered during payment processing are described below:

1. Outlay Schedules

Grantees are to prepare outlay schedules and update them as necessary, in accordance with State or EPA Regional Office requirements.

2. Payment Requests

Payment requests are to be made using the proper form (see Items a and b below), and are to be accompanied by the supporting documentation required by the EPA Regional Office (e.g., engineer's certification of work in place, invoices from contractors and suppliers, etc).

a. Standard Form 270

Payment requests for grants to States for advances of allowance (see Sections II.E.4.e, III.E, and VI.K, and Item 8.b below), State management assistance (see Sections I.F and II.E.4.a, and Item 8.c below), and water quality management (WQM) planning (see Sections II.C.4 and II.E.4.d, and Item 8.c below), are to be made using Standard Form 270 (SF-270). Grantees (i.e., States) are to submit the SF-270 to the EPA Regional Office, which will review it to insure that:

- i. the form has been properly completed, and
- ii. the computations are correct.

Payment to the State may be by letter of credit, payment in advance, or reimbursement.

Payments may not be assigned to a third party, except that payments under a grant for advances of allowance may be assigned to the small communities which are to receive the advances (see Item 8.c below).

Re: 40 CFR 30.400(b), 30.405, 35.2300(e)(1)

b. Standard Form 271

For all grants except those discussed in Item a above, payment requests are to be made using Standard Form 271 (SF-271). Routine payment requests are reviewed to insure that:

i. the form has been properly completed,

ii. the computations are correct,

iii. all costs are eligible and allowable for grant participation,

iv. only costs for approved change orders are included,

v. costs are displayed by category corresponding to the grant agreement, and

vi. the amount requested is consistent with the outlay schedule (see Item 1 above).

Specific grant payment processing procedures vary from Region to Region, and should be detailed in the State/EPA delegation agreements. In some Regions, grantees submit the SF-271 simultaneously to EPA's Regional Financial Management Office (FMO) and to the State reviewing agency which, when deficiencies or inaccuracies are found, acts to insure that the next payment will reflect the necessary correction. In other Regions, the SF-271 is submitted first to the State agency, where it receives a priority review, and immediately thereafter, is sent to the FMO. In either case, after processing the SF-271, the FMO instructs the appropriate U.S. Department of the Treasury disbursing office to issue a check to the grantee in the amount approved by the FMO. Payments may not be assigned to a third party (e.g., engineer, construction contractor, equivalent supplier, bond or note holder, etc.).

Grantees are expected to submit payment requests no more than once a month, and routine payments are expected to be processed without delay. Certain requests for payment, however, which occur at critical points in a project's progress, require a program review before funds are disbursed. Generally, these payments are:

- the initial request, to insure that the allowance and the supporting documentation are correct;
- the 50 and 90 percent grant payment requests, which are governed by statutory requirements for a plan of operation and an operation and maintenance (O&M) manual; and
- the final payment request.

In addition, payment request issues may arise during construction which would preclude the reviewing agency from making prompt payment because:

- unallowable or ineligible items are included in the request,
- project deficiencies exist,
- the grantee has failed to comply with Federal or State reporting requirements, or
- the grantee has failed to comply with grant conditions or regulatory requirements.

In these instances, the grantee will be notified of the deficiency, and either the State or the FMO will:

- deduct the unallowable or ineligible items,
- insure that the sums in question are excluded from subsequent payment requests,
- withhold an amount sufficient to insure compliance or correction of the deficiency, or
- disapprove the entire payment.

To further insure that grantee payment requests are in keeping with construction progress, copies of these requests, along with the engineer's certification of work in place, invoices from contractors and suppliers, copies of approved change orders, substantiation of force account work (see Section VI.E.5) and administrative costs, etc., are to be made available to, and reviewed by, construction field inspectors (see Section VII.G). Field inspector observations, based on these reviews, should be made available to the project reviewers, so that they can better assess future payment requests. This information should also be made available to those responsible for developing State and Regional outlay projections.

Where grant payments include funds from reserves (e.g., for innovative or alternative (I/A) technologies, small community assistance, etc.), State and EPA Regional Office procedures are to insure proper accounting for these funds.

Re: 40 CFR 30.400(b)(3), 30.405, 35.2300

3. Initial Payments

Initial payment requests may include:

a. Preaward Costs

Approved preaward costs allowable for grant participation (see Section VI.D.15).

b. Estimated Allowance

The Federal share of the estimated allowance for facilities planning and/or design according to the following schedule:

i. Step 2+3 Grants

If the grantee did not receive a facilities planning (Step 1) grant, 30 percent of the estimated allowance immediately after grant award, half of the remaining estimated (or re-estimated) allowance when design is 50 percent complete, and the remainder of the actual allowance after award of all prime contracts, approval of all force account work in lieu of awarding construction contracts, and acquisition of all eligible land.

If the grantee received a facilities planning grant, 50 percent of the estimated allowance when the design is 50 percent complete, and the remainder of the actual allowance after award of all prime contracts, approval of all force account work in lieu of awarding construction contracts, and acquisition of all eligible land.

Re: 40 CFR Part 35, Subpart I, Appendix B, Paragraph 9

ii. Step 3 Grants

50 percent of the estimated allowance immediately after grant award, and the remainder of the actual allowance after award of all prime construction conracts, approval of all force account work in lieu of awarding construction contracts, and acquisition of all eligible land.

Re: 40 CFR Part 35, Subpart I, Appendix B, Paragraph 8

4. Retainage

Payment requests are to include only costs which the grantee is currently and legally obligated to pay. Therefore, if a construction contract allows the grantee to retain a portion of its contractor's payment requests, the Federal payment request is to reflect the same retainage policy (i.e., if a contractor bills the grantee for $10,000 worth of work in place, and the grantee is allowed by the contract to retain 10 percent, or $1,000, of the contractor's payment request, then the payment request must be based on the $9,000 legally required to be paid by the grantee.

Re: 40 CFR 30.400(b)(3), 35.2300

5. Limitations

Grant payments are limited by EPA regulations to the Federal share of:

- a. 50 percent of the total eligible project costs, unless the final plan of operation has been approved;
- b. 90 percent of the total eligible project cost, unless the O&M manual has been approved;
- c. for a phased or segmented project, 90 percent of the total eligible cost for the entire treatment works (i.e., for the sum of all phases or segments), unless the O&M manual has been approved;
- d. for a project in which a component has been placed in operation before completion of the entire project, no additional payment, unless the O&M manual for the operating component has been approved; and
- e. the allowable costs incurred within the budget period for the project.

Re: 40 CFR 30.200, 35.2206

6. Final Building Payment

The final building payment is based on the grantee's submission of the final building payment request. This is not a final grant payment, since the grantee is required to retain an engineer during the project's first year of operation (see Section VII.I.1, and Item 7 below). A final onsite inspection of the project by the reviewing agency should be made before the final building payment is made (see Sections VII.G.5 and VIII.D.1). The payment request should be accompanied by the vouchers and cost summaries required by the reviewing agency (see Section VIII.D.3), releases from the grantee and its contractors, and documents indicating that all grant conditions and limitations, including the adoption and implementation of the user charge (UC) system, and sewer use ordinance (SUO), have been complied with (see Section VIII.D.4 for a further discussion of the final building payment request).

7. Final Grant Payment

The final grant payment is made after the project's first year of operation, provided that the grantee affirmatively certifies that the project meets its project performance standards (see Section VII.I.2). Payments made during the first year of operation will be primarily for engineering services performed during that period, and may be made no more frequently than monthly.

8. Special Purpose Grants

a. Land Acquisition Grants

If a grant is awarded solely for the acquisition of eligible land, grant payments are not subject to the limitations listed in Items 5 and 6 above for a UC system, SUO, plan of operation, or O&M manual.

Re: 40 CFR 35.2260

b. Relocation Assistance Grants

Advance payment, as distinct from a reimbursement payment, may be made for projects which involve relocation assistance, but only for the relocation assistance costs.

Re: 40 CFR 4.502(c), 40 CFR 35.2300(d)

c. Grants to States for Advances of Allowance

For grants to States for advances of allowance (see Sections II.E.4.e, III.E, and VI.K), payments may be made to the State by letter of credit, payment in advance, or reimbursement.

Instead of receiving payments, however, the State can request EPA to assign payment of each advance directly to the small community for which the State has approved an advance. In this latter case, the following procedures must be followed by the State:

i. a separate SF-270 must be used for each community's advance;

ii. the community's name and mailing address must be shown as the payee on the SF-270;

iii. the State's accounting system must treat the advance on an accrual, rather than a cash basis;

iv. the State must execute an agreement with each community, authorizing the State to request EPA to assign payment directly to the community, and must provide a copy of the agreement to EPA;

v. the State must inform the community, in writing, that the advance has been approved; and

vi. the State must enter the approved advance in its accounting system as an obligation of grant funds, prior to submitting the SF-270, requesting reimbursement from EPA for the approved advance.

Re: 40 CFR 30.400(b), 30.405, 35.2025(b), 35.2300(e)

d. Other Grants to States

For State management assistance grants (see Sections I.F and II.E.4.a) and State WQM planning grants (see Sections II.C.4 and II.E.4,d), payments may be made to the State by letter of credit, payment in advance, or reimbursement. Payments may not be assigned to a third party.

Re: 40 CFR 30.400(b), 30.405

9. Grant Overpayment

Where a grant has been overpaid, the grantee is required to repay the United States Treasury within 30 days of EPA's final decision that an overpayment has been made. After the 30 day period, EPA may charge interest on outstanding balances.

Re: 40 CFR 30.400(a), 30.802

10. Grant Related Income

All income received by a grantee as a result of its conduct of the project (e.g., interest on grant funds received from EPA but not paid to contractors, proceeds from the sale of bidding documents, bid bond forfeitures (see Section F.4, Paragraph A.3.b below), refunds, rebates, credits, discounts for prompt payment, reimbursements, etc.) must be returned to the project account. However, liquidated damages collected from a contractor are not considered grant related income (see Section F.4, Paragraph A.3.a below).

Normally, the grantee is not required to make a cash payment, but rather to report the amount of grant related income in the space provided on the SF-270 or SF-271. However, after the final grant payment has been requested, the Federal share of any remaining grant related income must be paid to the United States Treasury, and credited to the State's current allotment.

An exception to this requirement is that interest earned by States and American Indian Tribes is not considered grant related income. Also, income which results from the operation of a wastewater treatment system is not considered grant related income, but is required to be used to offset operation, maintenance, and replacement (OM&R) costs (see Section V.E).

Re: 40 CFR 30.525(b) through (d), 35.2300(b)

11. Grants Information and Control System

Each payment made to a grantee is to be entered into the Grants Information and Control System (GICS) by the reviewing agency which, under the State/EPA delegation agreement, has this responsibility (see Section III.C.3).

C. GRANT INCREASES AND DECREASES

1. Increases

a. Step 2+3 and Step 3 Grants

Step 2+3 and Step 3 grant increase requests most often occur because:

- construction bids exceed the estimated building costs,
- quantities for unit price items exceed those estimated in the bidding documents, or
- change orders are required (see Section VII.H.1).

Very often, minor increases in the cost of building the project can be accommodated by the construction contingency allowance. However, where the contingency allowance is insufficient to cover cost increases, and where the request for a grant increase is justified and approved, a grant increase may be made.

A grant increase can be approved only if:

i. the grantee's justification for the increase is acceptable under Federal regulations,

ii. the costs are allowable for grant participation,

iii. the costs are for work which is within the existing scope of work of the project (see the "Discussion" portion of Section VII.H),

iv. the increase can be funded from the State's allotment, and

v. the State has certified the increase for grant assistance.

(Note: EPA has proposed a 5 percent cap on all grant increases. Before processing any grant increase, the project reviewer is to determine from EPA the current status of this proposal.)

Re: 49 FR 6113 (February 17, 1984)

b. Step 1 and Step 2 Grants

Grant increases for Step 1 and Step 2 projects are discussed in detail in Sections VIII.B.1.d and VIII.B.2.c. As an alternative to a grant increase for a project which is unlikely to receive a Step 2+3 or a Step 3 grant, a reduction of the current work effort may be preferable. Reductions of work effort for Step 1 and Step 2 grants are discussed in detail in Sections VIII.B.1.e and VIII.B.2.d.

c. Award Procedures

Approval of a grant increase requires preparation of a formal grant amendment. Each State has internal procedures which are to be followed in processing the grant amendment. Grant increases may only be awarded by EPA, and are subject to the requirement for advance Congressional notification. Refer to Section VI.M for a detailed discussion of grant award procedures.

2. Decreases

Grant decreases most often occur when construction bids are less than the estimated contract costs included in the grant application. Grant decreases may also occur at the completion of any project, including Step 1 and Step 2 grants. In most instances, a request for a grant decrease is not made by the grantee, but is initiated by the reviewing agency. Project reviewers are to be alert for legitimate opportunities to reduce grants, since recovered funds, after being returned to EPA, are realloted to the same State for funding other projects on the State's project priority list. Grant decreases require the preparation of a formal grant amendment. Refer to Section VI.M for a detailed discussion of grant award procedures.

D. DISPUTES

In the construction grants program, a dispute is a disagreement between a grant applicant or grantee and the reviewing agency (either the State or EPA) concerning a decision by the reviewing agency with regard to a grant requirement. Disputes are different from protests or appeals of protests (see Section VII.D.6) and claims (see Section VII.H.2), both of which arise between grantees and their contractors and potential contractors.

Disputes which concern a State action are to be submitted to the State, and reviewed by the State in accordance with its own procedures. The State will:

- review its initial decision,
- issue a final decision, labeled as such, and
- notify the applicant or grantee of its right to request a review by the EPA Regional Office of the State's final decision.

If the dispute involves an initial decision by EPA, it is to be submitted directly to the EPA Regional Office (or for Headquarters-awarded grants, to EPA Headquarters) as described below.

The formalized procedure for resolving disputes at the EPA Regional Office level involves the designation of a Regional disputes decision official (DDO), who reviews the grant applicant's or grantee's request and issues a final decision. If the DDO is a person other than the Regional Administrator (RA), the grant applicant or grantee may request that the RA review the DDO's final decision. If the DDO is the RA, the grant applicant or grantee may request that the RA reconsider his final decision.

Where a State has established a disputes resolution procedure which the EPA Regional Office determines to be equivalent to that provided by the DDO, the State's final decision will be considered equivalent to a DDO's final decision, and the grant applicant or grantee will only be entitled to one review at the Regional level (i.e., a review by the RA). Otherwise, the request for review of a State's final decision should be submitted to the DDO.

If the grant applicant or grantee requests that the RA review the State's final decision or reconsider the DDO's final decision, the request must include:

- a copy of the final decision,
- a statement of the amount in dispute,

- a description of the issues involved, and
- the grant applicant's or grantee's objection to the final decision.

When the request for review or reconsideration is filed, the grant applicant or grantee is entitled to:

- be represented by counsel,
- submit documentary evidence and briefs,
- participate in an informal conference with EPA officials, and
- receive a written decision from the RA.

The RA will review the State's or the DDO's final decision, or reconsider his own final decision, and issue a determination. If the grant applicant or grantee is dissatisfied with the RA's determination, it may file a petition for a discretionary review by the Assistant Administrator for Water at EPA Headquarters. The petition must include a copy of the RA's determination, and a concise statement of the grant applicant's or grantee's reasons for believing that the determination is erroneous. The Assistant Administrator for Water, upon examination of the dispute, will decide whether or not to review the RA's determination. If the decision is not to review, the Assistant Administrator for Water will advise the grant applicant or grantee that the RA's determination remains the final EPA action. If the Assistant Administrator for Water decides to review the RA's determination, the review will generally be limited to the written record, although the grant applicant or grantee may be allowed to submit briefs and/or to attend an informal conference. The decision of the Assistant Administrator for Water will be EPA's final action.

Several EPA decisions are exempt from the disputes process. Grant applicants or grantees may not appeal EPA's decisions concerning:

1. disapprovals of deviations from regulatory requirements (see Section E below);
2. bid protest decisions made under 40 CFR Part 33, Subpart G (see Section VII.D.6);
3. National Environmental Policy Act (NEPA) decisions made under 40 CFR Part 6 (see Section IV.D.1);

4. advanced wastewater treatment decisions made by the EPA Administrator (see Section IV.E.1); and

5. decisions of the EPA Audit Resolution Board (see Section VIII.E.5).

Re: 40 CFR Part 30, Subpart L; 40 CFR 35.3030

E. DEVIATIONS

A grant applicant, grantee, State agency, EPA Regional Office, or EPA program office may request an exception to the regulations (i.e., a deviation). Deviation requests are considered on a case-by-case basis, although deviations will not be issued from those regulations which implement statutory or executive order requirements. Deviation requests from a grant applicant, grantee, or State agency are initially submitted to the EPA Regional Office, which in turn forwards the request to the Director, Grants Administration Division, at EPA Headquarters, with a recommendation, supported by detailed reasons, for approval or disapproval. To facilitate the concurrence process (see below), a copy of the entire deviation request package should be sent to the Municipal Construction Division at EPA Headquarters.

The deviation request is to include the following information:

1. the grantee's name, project number, date of grant award, and grant amount;

2. identification of the section of the regulations from which the deviation is requested;

3. a complete description of what the deviation will accomplish and a justification of why the deviation is necessary; and

4. a statement of whether the same or a similar deviation has been previously requested, and if so, an explanation of why it was requested and the outcome of the request.

The Director, Grants Administration Division, approves or disapproves the deviation request after consultation with, and concurrence by, the Director, Municipal Construction Division. Deviations may be requested before or after grant award, although approval before grant award does not guarantee an award. Decisions on deviation requests may not be appealed under the disputes provisions of 40 CFR Part 30, Subpart L (see Section D above).

Re: 40 CFR Part 30, Subpart J

F. DETERMINATION OF ALLOWABLE COSTS

1. General

In the process of reviewing grant applications and payment requests, the project reviewer is confronted with having to make decisions concerning the eligibility or allowability of project costs. The terms "eligible" and "allowable" are often used interchangeably by regulatory officials, grantees, and engineers when discussing whether an incurred cost may be reimbursed under the construction grants program. Although technically there is a difference between these terms as defined below, their synonymous use will not influence the outcome of a cost determination.

"Eligible costs" were defined in earlier regulations as, "those costs in which Federal participation is authorized pursuant to applicable statute" (40 CFR 30.135-8, prior to October 1, 1983; current regulations do not contain a definition of eligible costs). Allowable costs were and are defined as, "those project costs that are: eligible, reasonable, necessary, and allocable to the project; permitted by the appropriate Federal cost principles; and approved by EPA in the assistance agreement" (40 CFR 30.200). An example best illustrates the difference between the two terms.

Building of treatment works is authorized under Title II of the Clean Water Act (CWA), and the costs are therefore eligible for grant assistance. Building of highways, airports, dams, water supply projects, etc. are not authorized in the CWA, and are therefore ineligible for grant assistance. Even within a generic eligible category of projects (e.g., building of treatment works), some subcategories associated with the eligible project may be specifically authorized by statute and therefore described as an eligible cost. For example, the CWA authorizes (i.e., makes eligible) the cost of acquiring land which will be an integral part of the treatment process. Therefore, where items of cost are specifically cited in an applicable statute, the term "eligible cost" is used.

Within a generic eligible category of projects, costs may be allowable or unallowable for grant participation. Using the same example, engineering and legal costs associated with the acquisition of eligible land are allowable for grant participation. These same costs, if incurred for the acquisition of ineligible land (e.g., land on which a conventional technology treatment plant is built), are unallowable for grant participation.

2. Cost Principles

Allowable and unallowable costs are generally defined in two ways: by cost principles applicable to all Federal agencies, and by the regulations and policies of the agency responsible for the implementation of a specific program.

In the case of EPA's construction grants program, two government-wide cost principles are used:

- "Cost Principles for State and Local Governments," Office of Management and Budget (OMB) Circular A-87, dated February 1981. These cost principles are used in determining allowable costs incurred and claimed by a grantee, but are not applicable to the grantee's contractors (e.g., engineer, attorney, construction manager, etc).
- "Federal Acquisition Regulations" (48 CFR Part 31, Contract Cost Principles and Procedures), formerly "Public Contracts and Property Management" (41 CFR Part 1-15, Contract Cost Principles and Procedures). These cost principles are applicable to most grantee subagreements, with the exception of formally advertised (i.e., competitively bid), fixed price contracts where price is the primary factor in contract award.

a. Allowability Factors for Government Agencies

OMB Circular A-87 describes factors affecting the allowability of costs for State, local, and Federally-recognized Indian tribal governments. In the absence of guidance for a specific cost item described in Item 4 below, to be allowable under the construction grants program, costs must meet the following general criteria:

i. Be necessary and reasonable for the proper and efficient administration of the grant project, be allocable to the project, and not be a general expense required to carry out the overall responsibilities of the unit of government of which the grantee is a part.

ii. Be authorized or not prohibited under State or local laws or regulations.

iii. Conform to any limitations or exclusions set forth in Federal cost principles, Federal laws, or other governing limitations as to types or amounts of cost items.

iv. Be consistent with policies, regulations, and procedures that apply uniformly to both Federally assisted and other activities of the unit of government of which the grantee is a part.

v. Be accorded consistent treatment through the application of generally accepted accounting principles appropriate to the circumstances.

vi. Not be allocable to, or included as, a cost of any other Federally financed program in either the current or a prior period.

Re: 40 CFR 30.410(a)

b. Allowability Factors for Commercial Organizations

Factors affecting the allowability of costs for commercial organizations are similar to those in OMB Circular A-87 (see Item a above). General factors to be considered in determining the allowability of individual cost items include:

i. reasonableness;

ii. allocability;

iii. standards promulgated by the U.S. Cost Accounting Standards Board, if applicable; otherwise, generally accepted accounting principles and practices appropriate to the particular circumstances; and

iv. any limitations or exclusions set forth in the regulations or otherwise included in the contract as to types or amounts of cost items.

The regulations also include a discussion of selected items of cost beyond the general factors listed above. Representative items are:

- definition of reasonableness and allocability,
- advertising costs,
- bad debts,
- bidding costs,
- bonding costs,
- entertainment costs,
- fringe benefits,
- job-site expenses,
- field personnel,
- travel costs, and
- bidding and proposal costs.

Re: 40 CFR 30.410(d); 41 CFR Part 1-15;
48 CFR Part 31

c. Allowability Factors for Other Organizations

In rare instances, grantees may enter into subagreements with other State or local government agencies, hospitals, educational institutions, or other nonprofit institutions. Allowable cost factors for State and local governments are described in Item a above. Allowable cost factors have also been established for the following organizations:

i. Hospitals

Described in 45 CFR Part 74, Appendix E.

Re: 40 CFR 30.410(e)

ii. Educational Institutions

Described in OMB Circulars A-21 and A-88.

Re: 40 CFR 30.410(b)

iii. Other Nonprofit Institutions

Described in OMB Circular A-122.

Re: 40 CFR 30.410(c)

d. Classification of Costs

The total allowable cost of a project includes its allowable direct costs, plus its allocable portion of allowable indirect costs, less applicable credits (see Section B.10 above). There is no universal rule for classifying certain costs as either direct or indirect under every accounting system (see Section VII.C.7). A cost may be direct with respect to some specific service or function, but indirect with respect to the grant or other ultimate cost objective. For a given project, it is essential that each cost item be treated consistently, either as a direct or an indirect cost.

i. Direct Costs

Direct costs are those that can be identified specifically with a particular cost objective. Typical direct costs are:

- compensation of employees (including supervisory and clerical personnel) for the time and effort devoted specifically to the execution of the funded project;

- cost of materials acquired, consumed, or expended specifically for the funded project;

- equipment and other approved capital expenditures;

- other items of expense incurred specifically to carry out the grant agreement or the contractor's subagreement; and

- services furnished specifically for the funded project by other agencies, contractors, or subcontractors.

ii. Indirect Costs

Indirect costs are those incurred for a common or joint purpose benefitting more than one cost objective, and those not readily assignable to the cost objectives specifically benefited, without an effort which is disproportionate to the results achieved. Typical indirect costs consist of general overhead items such as:

- salaries of supervisory and support personnel not working directly on the project;

- office space and utilities,

- telephones and other communication services,

- office supplies and services not readily assignable to the project,

- administrative expenses,

- employee and general insurance, and

- contributions to Social Security and other pension plans.

Indirect costs are allowable for grant participation only if they are determined on the basis of a negotiated indirect cost agreement, which is incorporated by reference in the grant agreement (in the case of a municipality) or in a sub-agreement (in the case of a contractor).

In general, the parties to a contract (other than contractors procured through competitively bid, fixed price contracts) will negotiate an indirect cost rate for the contract or project. The indirect cost rate will usually be a percentage of certain specified direct costs. For example, an engineering firm may negotiate an indirect cost rate which is 150 percent of direct labor costs, while another firm's indirect cost rate may be negotiated as 100 percent of total direct costs.

The negotiated indirect cost rate, based on an annual budget, is considered provisional for the firm's upcoming fiscal year. During negotiations, an indirect cost rate ceiling (e.g., 160 percent), which may not be exceeded in any case, may also be established. At the conclusion of the firm's fiscal year, the indirect cost rate is finalized (based on actual costs) and where appropriate, adjustments are made to previous invoices paid during the covered period. The final indirect cost rate may be higher (although it may not exceed the ceiling rate) or lower than the provisional rate. A new indirect cost rate is then negotiated for the next fiscal year.

Grantees which claim indirect costs associated with administrative or force account work conduct similar indirect cost rate negotiations with EPA or another cognizant Federal agency.

> At the conclusion of the contract or project, all costs, including indirect costs and rates, are subject to audit and consequent adjustments. It is essential, therefore, that grantees and their contractors (other than contractors procured through competitively bid, fixed price contracts) develop and retain adequate documentation to support all costs claimed for grant assistance (see Section VIII.D.9).

3. Allowable and Unallowable Costs

As described in Item 2 above, allowable and unallowable costs are defined, within the framework of the applicable cost principles, by EPA for the construction grants program. Allowable cost determinations are based on regulations promulgated by EPA or on policies representing sound fiscal and managerial practices.

Regulations implementing the construction grants program prior to the 1981 CWA amendments (40 CFR Part 35, Subpart E) contained a partial list of allowable and unallowable costs. The regulations were supplemented by a listing titled "Allowability of Miscellaneous Costs" in Chapter VII of the first and second editions of the Handbook of Procedures. Projects awarded grants prior to May 12, 1982 are subject to allowability determinations based on the provisions of 40 CFR Part 35, Subpart E, and the appropriate earlier edition of the Handbook.

Regulations implementing the 1981 CWA amendments (40 CFR Part 35, Subpart I) were published in interim final form on May 12, 1982, and in final form on February 17, 1984. Both sets of regulations contain "Appendix A - Determination of Allowable Costs." The February 17, 1984 Appendix A, which is a revised interim final rule, is included verbatim in Item 4 below, supplemented by clarification and examples for specific cost items. To distinguish the exact reproduction of the regulations from the text of the Handbook, the regulations are typed entirely in capital letters. To aid the reader in locating specific provisions in the regulations, underlining has been added to the major subject headings.

When a project reviewer is confronted with an item of cost whose allowability is uncertain, the reviewer should take the following actions, in the order in which they are listed:

a. review Item 4 below;

b. review 40 CFR Parts 4, 30, and 33 for issues concerning the costs of relocation and land acquisition, general grant management, and procurement, respectively;

c. review the appropriate cost principles described in Item 2 above; and

d. refer unresolved issues to the appropriate EPA Regional Office or to EPA Headquarters for resolution.

4. 40 CFR PART 35, SUBPART I, APPENDIX A, REVISED INTERIM FINAL RULE - DETERMINATION OF ALLOWABLE COSTS

(a) PURPOSE. THE INFORMATION IN THIS APPENDIX REPRESENTS AGENCY POLICIES AND PROCEDURES FOR DETERMINING THE ALLOWABILITY OF PROJECT COSTS BASED ON THE CLEAN WATER ACT, EPA POLICY, APPROPRIATE FEDERAL COST PRINCIPLES UNDER PART 30 OF THIS SUBCHAPTER AND REASONABLENESS.

In order for these policies and procedures to be applied, project costs must be supported by adequate documentation. It is essential that project reviewers insure that grantees establish and maintain adequate recordkeeping systems for this purpose.

(b) APPLICABILITY. THIS COST INFORMATION APPLIES TO GRANT ASSISTANCE AWARDED ON OR AFTER THE EFFECTIVE DATE OF THIS REGULATION (FEBRUARY 17, 1984). PROJECT COST DETERMINATIONS UNDER THIS SUBPART ARE NOT LIMITED TO THE ITEMS LISTED IN THIS APPENDIX. ADDITIONAL COST DETERMINATIONS BASED ON APPLICABLE LAW AND REGULATIONS MUST OF COURSE BE MADE ON A PROJECT-BY-PROJECT BASIS. THOSE COST ITEMS NOT PREVIOUSLY INCLUDED IN PROGRAM REQUIREMENTS ARE NOT MANDATORY FOR DECISIONS UNDER GRANTS AWARDED BEFORE THE EFFECTIVE DATE. THEY ARE ONLY TO BE USED AS GUIDANCE IN THOSE CASES.

In making allowability determinations, project reviewers, disputes officials, and auditors should consider the reasonableness of commitments previously made to grantees in the absence of pertinent statutes, regulations, or EPA policy.

A. COSTS RELATED TO SUBAGREEMENTS

1. ALLOWABLE COSTS RELATED TO SUBAGREEMENTS INCLUDE:

   a. THE COSTS OF SUBAGREEMENTS FOR BUILDING THE PROJECT.

The subagreements referred to here are the prime contracts (including any subcontracts) for building the project, including the direct purchase of equipment and materials by the grantee.

b. THE COSTS OF COMPLYING WITH THE PROCUREMENT REQUIREMENTS OF PART 33 OF THIS SUBCHAPTER, OTHER THAN THE COSTS OF SELF-CERTIFICATION UNDER §33.110.

To be allowable, the costs of complying with Part 33 must be incurred after grant award, or must be approved as a preaward cost (see Section III.D.3.e). However, preaward costs are limited to the procurement of major equipment requiring long lead times, field testing, minor rehabilitation or building, and land acquisition. Other procurement costs incurred before grant award are not allowable.

Normally, the only unallowable procurement costs which the applicant would incur before grant would be those associated with procuring services (e.g., engineering services during construction, legal services, etc). These procurement costs are generally very small compared with the cost of building the project or the cost of the services themselves.

c. THE COST OF LEGAL AND ENGINEERING SERVICES INCURRED BY GRANTEES IN DECIDING PROCUREMENT PROTESTS AND DEFENDING THEIR DECISIONS IN PROTEST APPEALS UNDER SUBPART G OF 40 CFR PART 33.

Services, such as legal and engineering, must be procured in accordance with 40 CFR Part 33 (see Sections VII.B, VII.C, VII.E, and VII.F). Normally, a grantee's existing subagreements will include the necessary services within the scope of work. However, the extent of the services may exceed that originally defined in the existing subagreement, in which case the grantee will be required to negotiate a change order (see Section VII.C.8). The cost of the legal and engineering services are allowable regardless of the outcome of the protest, provided there was not a covert attempt by the grantee to violate or circumvent EPA's procurement regulations.

d. THE COSTS OF ESTABLISHING OR USING MINORITY AND WOMEN'S BUSINESS LIAISON SERVICES.

Grantees are required to undertake affirmative actions concerning the use of small, minority, women's, and labor surplus area businesses (see Sections V.C.1.w, VII.C.4 and VII.D.3). The cost of establishing and using liaison services for this purpose is allowable for grant participation, provided that the services are reasonable and contribute towards EPA's goal of awarding a fair share of contracts to such businesses. These services may include establishing and maintaining a list of qualified businesses, interviews with these firms to establish their qualifications for specific work, meetings with the grantee's contractors to make them aware of the capabilities of qualified firms, preparation of necessary reports (e.g., EPA Form 6005-1), and other reasonable and necessary actions to further EPA's goal.

e. THE COSTS OF SERVICES INCURRED DURING THE BUILDING OF A PROJECT TO INSURE THAT IT IS BUILT IN CONFORMANCE WITH THE DESIGN DRAWINGS AND SPECIFICATIONS.

These services are primarily engineering and construction management services provided during the building of the project, including inspection services, materials testing (e.g., concrete strength, soil compaction, etc.) required by the specifications, inspecting and expediting the delivery of equipment and material purchased directly by the grantee, review of shop drawings and as-built drawings, etc.

f. THE COSTS (INCLUDING LEGAL, TECHNICAL AND ADMINISTRATIVE COSTS) OF ASSESSING THE MERITS OF OR NEGOTIATING THE SETTLEMENT OF A CLAIM BY OR AGAINST A GRANTEE UNDER A SUBAGREEMENT PROVIDED:

The reasonable costs incurred by a grantee to analyze a claim and to negotiate a settlement can be characterized as negotiation costs. Those costs which are incurred prior to either party filing a complaint with the courts or making a demand for arbitration will be treated as explained in this paragraph and its subparagraphs. Those costs which are incurred after the filing will be treated as described in Paragraph 2.c below (i.e., unallowable unless all six conditions listed in Paragraph 2.c are met). The grantee must demonstrate that the pre-filing costs were incurred as a result of a timely and meaningful negotiation process and were not caused by mismanagement.

The negotiation costs, which are allowable to the extent explained below, are normally included within the scope of the grantee's contract for construction management services, but the extent of the services may require a change order (see Section VII.C.8). If it is necessary to award a new subagreement (e.g., for claim analysis), the requirements of 40 CFR Part 33 must be met. These regulations require, among other things, access to records, cost and pricing data, and separate negotiation of profit (see Sections VII.B, VII.C, VII.E, and VII.F).

Unless clearly allocable to allowable or unallowable cost categories (see Sections F.2 and F.3 above), negotiation costs are allowable to the same extent that the project is allowable, provided that:

(1) THE CLAIM ARISES FROM WORK WITHIN THE SCOPE OF THE GRANT;

See the "Discussion" portion of Section VII.H.

(2) A FORMAL GRANT AMENDMENT IS EXECUTED SPECIFICALLY COVERING THE COSTS BEFORE THEY ARE INCURRED;

See Section VI.M, and Section C.1 above.

(3) THE COSTS ARE NOT INCURRED TO PREPARE DOCUMENTATION THAT SHOULD BE PREPARED BY THE CONTRACTOR TO SUPPORT A CLAIM AGAINST THE GRANTEE; AND

A claim presented by a contractor should be complete and adequately documented. If it is not, it should be returned with instructions to correct or augment the documentation. Costs for preparing documentation or incurring administrative expenses to assess an incomplete claim are not allowable.

(4) THE REGIONAL ADMINISTRATOR DETERMINES THAT THERE IS A SIGNIFICANT FEDERAL INTEREST IN THE ISSUES INVOLVED IN THE CLAIM.

A claim in this context is a disagreement between the grantee and a contractor which cannot be resolved in the manner normally employed for negotiating change orders (see Section VII.H.2). There is a significant Federal interest in using a fair and timely negotiation process to resolve claims, thereby avoiding lengthy and costly arbitration and/or litigation. In general, EPA has a strong interest in the assessment process used to evaluate the merits of a claim. Depending upon the results of the assessment, the Federal interest may change. The Federal interest will depend upon the reviewing agency's evaluation of the merits of the claim and the relative merits of the parties' stated positions and their negotiating posture.

Where an unresolved claim appears to be headed for protracted negotiations or possibly arbitration or litigation after all reasonable attempts have been made at resolution, the grantee must obtain cost estimates for the legal and technical services deemed necessary for such proceedings (see Paragraph 2.c below).

Re: 40 CFR 35.2350

g. CHANGE ORDERS AND THE COSTS OF MERITORIOUS CONTRACTOR CLAIMS FOR INCREASED COSTS UNDER SUBAGREEMENTS AS FOLLOWS:

A meritorious contractor claim is a claim which has been stripped of its spurious or nonvalid parts (i.e., a meritorious claim is that portion of the total claim for which the grantee is legally liable). The allowability of these costs are determined in accordance with the following rules:

(1) CHANGE ORDERS AND THE COSTS OF CONTRACTOR CLAIMS PROVIDED THE COSTS ARE:

(i) WITHIN THE SCOPE OF THE PROJECT;

See the "Discussion" portion of Section VII.H.

(ii) NOT CAUSED BY THE GRANTEE'S MISMANAGEMENT; AND

The reviewing agency will evaluate the grantee's performance during project construction, noting such indications of grantee mismanagement as undue delays in processing change orders, the lack of adequate supervision and control of the project at all times, etc.

(iii) NOT CAUSED BY THE GRANTEE'S VICARIOUS LIABILITY FOR THE IMPROPER ACTIONS OF OTHERS.

(2) PROVIDED THE REQUIREMENTS OF PARAGRAPH g(1) ARE MET, THE FOLLOWING ARE EXAMPLES OF ALLOWABLE CHANGE ORDERS AND CONTRACTOR CLAIM COSTS:

(i) BUILDING COSTS RESULTING FROM DEFECTS IN THE PLANS, DESIGN DRAWINGS AND SPECIFICATIONS, OR OTHER SUBAGREEMENT DOCUMENTS ONLY TO THE EXTENT THAT THE COSTS WOULD HAVE BEEN INCURRED IF THE SUBAGREEMENT DOCUMENTS ON WHICH THE BIDS WERE BASED HAD BEEN FREE OF THE

DEFECTS, AND EXCLUDING THE COSTS OF ANY REWORK, DELAY, ACCELERATION OR DISRUPTION CAUSED BY SUCH DEFECTS;

Additional costs to correct defects (i.e., errors and omissions in the contract documents), and other costs caused by the impact of such defects on other portions of the project, are not allowable (see Section VII.H.1.b). For example, if the construction drawings had omitted return sludge piping from the secondary clarifiers to the aeration tanks (an actual case), and the engineer or contractor detected this before building was undertaken, the cost of a change order to include the piping would be an allowable cost, since:

- the piping would have been included in the original bid,
- no additional construction or rework was required (beyond what would have been required if the work had originally been included), and
- there was no cost impact on other portions of the project (since construction work had not begun).

If this omission had been realized after substantial construction work had been completed, and therefore required rework, delay, or additional work beyond that which would have been required by defect free drawings, the cost of the piping would still have been allowable, but the additional cost of rework or delay would have been unallowable.

The additional cost is measured as the difference between the cost which would have been included in the bid based on defect free drawings and the actual cost of the change order. For example, if a concrete tank had been constructed, and was later found to be at an incorrect elevation due to an error in the design drawings, and if it was necessary to demolish the tank and reconstruct it at the correct elevation, the entire change order would be unallowable, except for differences in excavation costs. If additional excavation was required to enable the tank to be constructed at the correct elevation (i.e., the incorrect elevation was too high), the cost of the additional excavation would be allowable. However, if too much excavation had been undertaken, and fill was required to enable the tank to be constructed at the correct elevation (i.e., the incorrect elevation was too low), both the entire change order and the cost of the unnecessary excavation would be unallowable. In these cases, the grantee is free to seek remedial action from the responsible parties involved.

Regardless of the allowability or unallowability of construction costs to correct errors and omissions, in no case are additional engineering costs allowable, except for the cost of inspecting allowable construction work, to the extent that such inspection costs would have been incurred to inspect the same construction if such construction had originally been included in defect free drawings.

Re: 40 CFR 33.1005(b)

(ii) COSTS OF EQUITABLE ADJUSTMENTS UNDER CLAUSE 4, DIFFERING SITE CONDITIONS, OF THE MODEL SUBAGREEMENT CLAUSES REQUIRED UNDER §33.1030 OF THIS SUBCHAPTER.

The reviewing agency must determine that:

- an adequate site investigation was performed,
- the results of the site investigation were included in the bidding documents (see Section V.C.2.cc),
- costs were reasonable and necessary, and
- the grantee was timely and efficient in resolving the change order to minimize impact costs (i.e., the costs caused by the impact of the differing site conditions on other portions of the project).

If these conditions are met, EPA will participate in both the direct and, because of the Agency's risk-sharing policy for differing site conditions, the impact costs arising from the differing site conditions (see Section VII.H.1.a).

(3) SETTLEMENTS, ARBITRATION AWARDS AND COURT JUDGEMENTS WHICH RESOLVE CONTRACTOR CLAIMS SHALL BE REVIEWED BY THE GRANT AWARD OFFICIAL AND SHALL BE ALLOWABLE ONLY TO THE EXTENT THAT THEY MEET THE REQUIREMENTS OF PARAGRAPH g(1), ARE REASONABLE, AND DO NOT ATTEMPT TO PASS ON TO EPA the COST OF EVENTS THAT WERE THE RESPONSIBILITY OF THE GRANTEE, THE CONTRACTOR, OR OTHERS.

The grantee has the burden of substantiating that the costs of settlements, arbitration awards, and judgements are reasonable and necessary, and are therefore allowable. This substantiation includes a showing that the incurred costs were not the result of mismanagement by the grantee or the improper action of others.

If the claim seeks recovery for the costs of delay, the grantee must demonstrate that the delay impacted activities critical to timely completion (i.e., that the delayed activities affected the critical path for project completion).

h. THE COSTS OF THE SERVICES OF THE PRIME ENGINEER REQUIRED BY §35.2218 DURING THE FIRST YEAR FOLLOWING INITIATION OF OPERATION OF THE PROJECT.

The cost and the scope of these services are to be reasonable and appropriate to the nature, size, and complexity of the project (see Sections VII.C.5.b, VII,I.1, and VIII.D.7, and Paragraph 1.j below).

i. THE COST OF DEVELOPMENT OF A PLAN OF OPERATION INCLUDING AN OPERATION AND MAINTENANCE MANUAL REQUIRED BY §35.2106.

The cost of preparing the draft plan of operation, which is required as part of the grant application package, is not an allowable cost, but is part of the preapplication work which is intended to be defrayed, in part, by the allowance for facilities planning and/or design (see Section VI.D.8).

j. START-UP SERVICES FOR ONSITE TRAINING OF OPERATING PERSONNEL IN OPERATION AND CONTROL OF SPECIFIC TREATMENT PROCESSES, LABORATORY PROCEDURES, AND MAINTENANCE AND RECORDS MANAGEMENT.

While start-up services are an allowable cost, care must be exercised to insure that there is not a duplication of services, and therefore costs, between start-up services and the engineering services to be provided during the first year of operation (see Sections VII.C.5.b, VII.I.1, and VIII.D.7, and Paragraph 1.h above).

2. UNALLOWABLE COSTS RELATED TO SUBAGREEMENTS INCLUDE:

a. THE COSTS OF ARCHITECTURAL OR ENGINEERING SERVICES OR OTHER SERVICES INCURRED IN PREPARING A FACILITIES PLAN AND THE DESIGN DRAWINGS AND SPECIFICATIONS FOR A PROJECT.

The costs of these services are part of the work which is intended to be defrayed, in part, by the allowance for facilities planning and/or design. Also, if the engineer has provided services to prepare other documents supporting the grant application (e.g., UC system, SUO, intermunicipal agreements, draft plan of operation, value engineering (VE), etc.), the costs associated with such services are not allowable, but again are part of the work which is intended to be defrayed, in part, by the allowance for facilities planning and/or design (see Section III.D.3.c). However, planning and design costs are allowable as part of a 100 percent grant for the modification or replacement (M/R) of a failed I/A technology (see Section VI.J).

b. EXCEPT AS PROVIDED IN 1.g ABOVE, ARCHITECTURAL OR ENGINEERING SERVICES OR OTHER SERVICES NECESSARY TO CORRECT DEFECTS IN A FACILITIES PLAN, DESIGN DRAWINGS AND SPECIFICATIONS, OR OTHER SUBAGREEMENT DOCUMENTS.

An example of these unallowable costs would be the engineering costs to update data in the facilities plan (e.g., cost estimates, current population for determining existing needs, etc.), or to evaluate a required alternative (e.g., I/A technology) which was not properly evaluated in the facilities plan. Another example would be the engineering costs of redesigning a treatment plant unit process if the original design did not conform to State design standards, was impractical, or was excessively costly. However, revisions to a facilities plan, design drawings and specifications, or other subagreement documents which are necessary because of changes in EPA or State standards are not considered defects under this section, and are therefore allowable (see Section VII.H.1.c).

c. THE COSTS (INCLUDING LEGAL, TECHNICAL AND ADMINISTRATIVE) OF DEFENDING AGAINST A CONTRACTOR CLAIM FOR INCREASED COSTS UNDER A SUBAGREEMENT OR OF PROSECUTING A CLAIM TO ENFORCE ANY SUBAGREEMENT UNLESS:

Defense and prosecution costs are those costs (including legal, technical, and administrative costs) incurred after any party files a complaint in court or a demand for arbitration. When such action is taken, or appears likely to be taken, the grantee must obtain cost estimates for the legal and technical services deemed necessary for such proceedings.

A description of the claim, the facts and issues involved, and cost estimates for the proceedings must be submitted through the State to EPA for approval and the preparation of a grant amendment. This procedure allows the State and EPA to review the claim and, where appropriate, to utilize their experience and expertise to attempt to obtain a resolution before expensive proceedings are undertaken. Where it is determined that there is a significant Federal interest in the claim, EPA will prepare a grant amendment for the reasonable costs necessary for defense or prosecution, and if requsted, may provide technical and legal assistance (see Sections VII.H.3 and VII.H.5, Section C.1 above, and Paragraph 1.f above).

Re: 40 CFR 35.2350

(1) THE CLAIM ARISES FROM WORK WITHIN THE SCOPE OF THE GRANT;

See the "Discussion" portion of Section VII.H.

(2) A FORMAL GRANT AMENDMENT IS EXECUTED SPECIFICALLY COVERING THE COSTS BEFORE THEY ARE INCURRED;

After the grant amendment has been approved (see Section VI.M, and Section C.1 above), the legal and technical services must be procured in accordance with EPA's procurement requirements, as discussed in Section VII.C.8.

(3) THE CLAIM CANNOT BE SETTLED WITHOUT ARBITRATION OR LITIGATION;

In order to determine whether the claim can be settled without arbitration or litigation, the reviewing agency should request and review the following items from the grantee:

(i) Sufficient documentation that timely, good faith efforts were made to pursue negotiations in order to avoid arbitration or litigation, such as:

- a memorandum of negotiation (see EPA publication, "Management of Construction Change Orders - A Guide for Grantees," March 1983, page 10);
- timely analysis of the merits of the claim by the grantee's construction engineer (or other consultant) and legal staff;
- proof of a timely response; and
- a record of attempts made to perform timely and meaningful negotiations.

(ii) The engineer's independent estimate of the value of the claim.

(iii) An independent consultant's report, where appropriate.

(iv) Any other pertinent correspondence between the contractor and the grantee and/or the grantee's engineer.

(4) THE CLAIM DOES NOT RESULT FROM THE GRANTEE's MISMANAGEMENT;

(5) THE REGIONAL ADMINISTRATOR DETERMINES THAT THERE IS SIGNIFICANT FEDERAL INTEREST IN THE ISSUES INVOLVED IN THE CLAIM; AND

See Paragraph 1.f above.

(6) IN THE CASE OF DEFENDING AGAINST A CONTRACTOR CLAIM, THE CLAIM DOES NOT RESULT FROM THE GRANTEE'S RESPONSIBILITY FOR THE IMPROPER ACTION OF OTHERS.

d. BONUS PAYMENTS, NOT LEGALLY REQUIRED, FOR COMPLETION OF BUILDING BEFORE A CONTRACTUAL COMPLETION DATE.

Many construction contracts provide that liquidated damages will be assessed against a contractor for failure to complete the project on schedule (see Section VII.H.1.f). In some instances, contracts also provide monetary incentives (i.e., a bonus) as an inducement to complete the project ahead of schedule. Unless the bonus provision is required by law, a bonus paid by the grantee is an unallowable cost.

e. ALL INCREMENTAL COSTS OF DELAY DUE TO THE AWARD OF ANY SUBAGREEMENTS FOR BUILDING MORE THAN 12 MONTHS AFTER THE STEP 3 GRANT AWARD OR FINAL STEP 2+3 APPROVALS.

If the grantee delays the award of any subagreements for building the project beyond 12 months after the date of the Step 3 grant award or the final Step 2+3 approvals, the incremental costs caused by the delay are not allowable, even if the delay is justifiable (e.g., due to circumstances beyond the grantee's control). The incremental costs include building costs, as well as other costs for services, such as engineering supervision during construction and start-up, and continuing engineering services for the first year after the initiation of operation. The incremental costs for building may be determined by using the ratio of appropriate cost indices (e.g., the construction cost index published in Engineering News Record, or the EPA index published in the Journal of the Water Pollution Control Federation) applied to the subagreement cost awarded to the successful bidders. The numerator in the ratio would be the index 12 months after the date of the Step 3 grant award, or the final Step 2+3 approvals, and the denominator would be the index nearest the date of subagreement award. The ratio, assuming it is less than 1.0, is multiplied by the subagreement amount to determine the allowable cost. This same ratio is applied to other appropriate project costs (e.g., engineering supervision) to determine the allowable cost. The allowable building cost resulting from this adjustment is used to determine the final allowance for facilities planning and/or design (see Sections III.D.3.c and VI.L.1.f).

The project reviewer should also be aware that failure to promptly initiate and complete a project may result in the imposition of sanctions, including termination, pursuant to 40 CFR Part 30, Subpart I. While Paragraph e above refers to the award of any subagreements for building more than 12 months after Step 3 grant award or final Step 2+3 approvals, the regulations at 40 CFR 35.2212(b) discuss the 12 month limitation in the context of subagreements for building all significant elements of the project. Therefore, where the grantee has a planned program (e.g., the use of an independent construction manager to break a large contract into smaller contracts to increase competition or to encourage participation by small, minority, women's, and labor surplus area businesses), and has justifiable reasons for scheduling the award of contracts over a period of time, the 12 month limitation on incremental costs will be applicable to all contracts for building the project, but penalties for failure to proceed to construction in a timely manner (see Section VIII.B.4) will only be imposed for failure to award subagreements for building all significant elements of the project within the 12 month period. The objective of both requirements is to award contracts promptly, in order to accomplish the purpose of the project (i.e., to improve water quality) and to prevent unnecessary increases in construction costs due to inflation.

Where large or complex projects would require the award of subagreements more than 12 months after the date of Step 3 grant approval (a large project would not qualify for a Step 2+3 grant), consideration should be given to phasing or segmenting the project (see Section VI.D.10).

The approvals referred to for Step 2+3 projects are listed at 40 CFR 35.2202, and include plans and specifications, project schedule, draft plan of operation, intermunicipal service agreements, UC system, and SUO (see Section VI.F.3).

3. Other Costs

The following items are not explicitly included in 40 CFR Part 35, Subpart I, Appendix A, but represent prudent fiscal and management principles, and precedent cases:

a. Liquidated Damages

Monies recovered by grantees based on the assessment of liquidated damages have no effect on the determination of allowable costs (i.e., are not considered to be grant related income). Moreover, any additional costs (e.g., building, engineering, legal, or administrative) incurred because of a contractor's lack of timely performance are assumed to be offset by the liquidated damages, and therefore are unallowable, even in the event that the grantee elects not to exercise its right to recover liquidated damages, or the liquidated damages are insufficient to cover the grantee's additional costs.

b. Bid Bond Forfeiture

All bid bond forfeitures are treated as a reduction in the project's costs (i.e., are considered to be grant related income). However, the allowance for facilities planning and/or design continues to be based on the total allowable building cost, without regard to the bid bond forfeiture.

c. Public Liaison Services

Such services are unallowable, since they constitute a type of public information service, and as such are not directly related to, or necessary for, the building of the project.

d. Professional Liability Insurance

Insurance premiums for a contractor (e.g., engineer, construction manager, attorney, accountant, etc.) are allowable only for insurance which the contractor maintains in connection with the general conduct of its business. The types and extent of coverage must be in accordance with sound business practice, and the rates and premiums must be reasonable under the circumstances. The maintenance of professional liability insurance is a sound business practice, and the premiums are allowable, but only as part of the contractor's indirect cost agreement. The cost of additional insurance (e.g., for a specific project), beyond that normally carried by the contractor, is unallowable for grant participation.

e. Services Required by Law

The cost of services, other than engineering services during construction (see Paragraph 1.e above), such as railway or highway flagmen, or utility or highway inspectors, required during the building of the project, are allowable for grant participation provided that:

i. the agency responsible for the affected railway, highway, or utility requires such services for all parties conducting similar types of work, regardless of the source of construction funding for the project;

ii. the project work requiring such services is allowable, and is included in the scope of the approved project;

iii. the cost of such services has not been included in the construction contractor's bid price;

iv. the cost of such services is incurred directly by the grantee;

v. the cost is reasonable; and

vi. the services are required by State or local law.

f. Field Surveys to Identify Cultural Resources

The costs of field surveys to identify historical, architectural, archaeological, and cultural resources in the primary impact areas of the project are not allowable costs, but are part of the preapplication activities which are intended to be defrayed, in part, by the allowance for facilities planning and/or design. Where intensive surveys conducted during facilities planning or design indicate a high probability of discovering important cultural resources, and where the proposed project may have an adverse impact upon such cultural resources, the reasonable cost of services required during the building of the project (i.e., costs to protect previously identified artifacts, structures, etc.) are allowable. Such costs require prior approval by the reviewing agency, and must be supported by documentation justifying their need. The allowability of such work and the associated costs are determined on a case-by-case basis, and must be recommended by the State Historic Preservation Officer (SHPO), and in some cases, the Advisory Council on Historic Preservation (ACHP).

g. Travel Costs

The cost of local travel (i.e., commuting expenses) between living quarters and the construction site for persons employed at the site (i.e., the grantee's and contractor's employees) is generally not allowable.

B. MITIGATION

1. ALLOWABLE COSTS INCLUDE:

a. COSTS NECESSARY TO MITIGATE ONLY DIRECT, ADVERSE, PHYSICAL IMPACTS RESULTING FROM BUILDING OF THE TREATMENT WORKS.

b. THE COSTS OF SITE SCREENING NECESSARY TO COMPLY WITH NEPA RELATED STUDIES AND FACILITIES PLANS, OR NECESSARY TO SCREEN ADJACENT PROPERTIES.

Site screening is closely related to aesthetic features (see Section V.C.2.u, and Paragraph 2.a below), and the need for such costs should be established during facilities planning or design, and confirmed during the review of the grant application. Site screening is one method of maintaining the aesthetic character of the project location and will normally be used in lieu of other aesthetic features. Site screening should also be evaluated during the environmental review process (see Section IV.D.2).

c. THE COST OF GROUNDWATER MONITORING FACILITIES NECESSARY TO DETERMINE THE POSSIBILITY OF GROUNDWATER DETERIORATION, DEPLETION OR MODIFICATION RESULTING FROM BUILDING THE PROJECT.

Groundwater monitoring facilities are particularly important to the operation of land application systems for effluent or sludge, and as such are allowable costs. The analysis of groundwater samples will determine if the project is meeting its project performance standards (see Sections VI.M.5.g and VII.I.2.a). Groundwater monitoring facilities may also be warranted, and therefore allowable, for projects which include the rehabilitation of onsite systems, total containment ponds, or other waste stabilization ponds. The extent of the allowable costs for groundwater monitoring facilities is decided on a case-by-case basis, and depends on the size and complexity of the project and the present and potential future use of the groundwater.

2. UNALLOWABLE COSTS INCLUDE:

a. THE COSTS OF SOLUTIONS TO AESTHETIC PROBLEMS, INCLUDING DESIGN DETAILS WHICH REQUIRE EXPENSIVE BUILDING TECHNIQUES AND ARCHITECTURAL FEATURES AND HARDWARE, THAT ARE UNREASONABLE OR SUBSTANTIALLY HIGHER IN COST THAN APPROVABLE ALTERNATIVES AND THAT NEITHER ENHANCE THE FUNCTION OR APPEARANCE OF THE TREATMENT WORKS NOR REFLECT REGIONAL ARCHITECTURAL TRADITION.

A complete and exhaustive listing of allowable and unallowable costs for aesthetic features for treatment works would not be practical. In preparing such a listing, it would be practically impossible to address all situations. The following principles are intended to provide guidance in making decisions on the allowability of costs for aesthetic features.

In the design, construction, acquisition, and renovation of wastewater treatment works, to the extent possible and consistent with minimizing cost, buildings should:

i. conform to or complement the scale of existing or planned surrounding buildings;

ii. conserve energy;

iii. provide efficient and attractive interiors, including limited public reception areas where appropriate;

iv. provide parking space for motor vehicles owned by the grantee, and essential for the operation of the wastewater treatment facilities, and for handicapped employees as necessary, and such other parking space (for visitors and employees) as is consistent with a general policy of transportation efficiency and energy conservation, and with the availability of public transportation in the area;

v. contain architectural details (including hardware that is an integral part of the structure) that are designed to enhance the function and appearance of the building, and to reflect regional architectural traditions; and

vi. facilitate the highest productivity and efficiency of the treatment works and its employees.

Decisions concerning the allowability of specific item (particularly those associated with aesthetics) are to be well documented in the project files and made available to the grantee and the project auditor. Allowability decisions which cannot be made using the principles discussed above (see also Section V.C.2.u) are to be submitted from the State to the EPA Regional Office and, if necessary, to EPA Headquarters for review.

Re: EPA Audit Resolution Board Decision 13/14, "Criteria for Assessing the Allowability of Aesthetic Features and Landscaping on EPA Construction Grant Projects," February 24, 1984

C. PRIVATELY OR PUBLICLY OWNED SMALL AND ONSITE SYSTEMS

1. ALLOWABLE COSTS FOR SMALL AND ONSITE SYSTEMS SERVING RESIDENCES AND SMALL COMMERCIAL ESTABLISHMENTS INHABITED ON OR BEFORE DECEMBER 27, 1977 INCLUDE:

(Note: There is a conflict between this paragraph and 40 CFR 35.2034. EPA has proposed amending this paragraph to agree with the provision of 40 CFR 35.2034 that the requirement for habitation on or before December 27, 1977 applies only to privately owned small and onsite systems.)

a. THE COST OF MAJOR REHABILITATION, UPGRADING, ENLARGING AND INSTALLING SMALL AND ONSITE SYSTEMS, BUT IN THE CASE OF PRIVATELY OWNED SYSTEMS, ONLY FOR PRINCIPAL RESIDENCES.

Major rehabilitation may include, as an allowable cost, the demolition and removal of an existing onsite system provided that:

i. the system, including the septic tank, has failed beyond reasonable repair, and the replacement system is more cost effective than salvaging portions of the existing system; and

ii. either:

- there is only one reasonable location on the site for the new system, and the use of that location requires the removal of the existing system, or
- the existing system constitutes a real and present hazard to safety, public health, or water quality, which can only be abated by the removal of the existing system.

The demolition and removal of an existing onsite system for the convenience of the owner as a means of increasing property value or property use is unallowable for grant participation.

b. CONVEYANCE PIPES FROM PROPERTY LINE TO OFFSITE TREATMENT UNIT WHICH SERVES A CLUSTER OF BUILDINGS.

c. TREATMENT AND TREATMENT RESIDUE DISPOSAL PORTIONS OF TOILETS WITH COMPOSTING TANKS, OIL FLUSH MECHANISMS, OR SIMILAR INHOUSE DEVICES.

d. TREATMENT OR PUMPING UNITS FROM THE INCOMING FLANGE WHEN LOCATED ON PRIVATE PROPERTY AND CONVEYANCE PIPES, IF ANY, TO THE COLLECTOR SEWER.

e. THE COST OF RESTORING INDIVIDUAL SYSTEM BUILDING SITES TO THEIR ORIGINAL CONDITION.

2. UNALLOWABLE COSTS FOR SMALL AND ONSITE SYSTEMS INCLUDE:

a. MODIFICATION TO PHYSICAL STRUCTURE OF HOMES OR COMMERCIAL ESTABLISHMENTS.

b. CONVEYANCE PIPES FROM THE HOUSE TO THE TREATMENT UNIT LOCATED ON USER'S PROPERTY.

c. WASTEWATER GENERATING FIXTURES SUCH AS COMMODES, SINKS, TUBS, AND DRAINS.

D. REAL PROPERTY

1. ALLOWABLE COSTS FOR LAND AND RIGHTS-OF-WAY INCLUDE:

   a. THE COST (INCLUDING ASSOCIATED LEGAL, ADMINISTRATIVE AND ENGINEERING COSTS) OF LAND ACQUIRED IN FEE SIMPLE OR BY LEASE OR EASEMENT UNDER GRANTS AWARDED AFTER OCTOBER 17, 1972, THAT WILL BE AN INTEGRAL PART OF THE TREATMENT PROCESS OR THAT WILL BE USED FOR THE ULTIMATE DISPOSAL OF RESIDUES RESULTING FROM SUCH TREATMENT PROVIDED THE REGIONAL ADMINISTRATOR APPROVES IT IN THE GRANT AGREEMENT. THESE COSTS INCLUDE:

      (1) THE COST OF A REASONABLE AMOUNT OF LAND, CONSIDERING IRREGULARITIES IN APPLICATION PATTERNS, AND THE NEED FOR BUFFER AREAS, BERMS, AND DIKES;

      (2) THE COST OF LAND ACQUIRED FOR A SOIL ABSORPTION SYSTEM FOR A GROUP OF TWO OR MORE HOMES;

      (3) THE COST OF LAND ACQUIRED FOR COMPOSTING OR TEMPORARY STORAGE OF COMPOST RESIDUES WHICH RESULT FROM WASTEWATER TREATMENT;

      (4) THE COST OF LAND ACQUIRED FOR STORAGE OF TREATED WASTEWATER IN LAND TREATMENT SYSTEMS BEFORE LAND APPLICATION. THE TOTAL LAND AREA FOR CONSTRUCTION OF A POND FOR BOTH TREATMENT AND STORAGE OF WASTEWATER IS ALLOWABLE IF THE VOLUME NECESSARY FOR STORAGE IS GREATER THAN THE VOLUME NECESSARY FOR TREATMENT. OTHERWISE, THE ALLOWABLE COST WILL BE DETERMINED BY THE RATIO OF THE STORAGE VOLUME TO THE TOTAL VOLUME OF THE POND.

   b. THE COST OF COMPLYING WITH THE REQUIREMENTS OF THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (42 U.S.C 4621 et.seq., 4651 et seq.), UNDER PART 4 OF THIS CHAPTER.

The Uniform Relocation and Real Property Acquisition Policies Act of 1970, as implemented by EPA under 40 CFR Part 4, is applicable to projects receiving EPA grant assistance regardless of whether the land so acquired is eligible or ineligible for grant participation. The costs of complying with 40 CFR Part 4 are allowable in all cases, and it is only the cost of the land which may or may not be eligible for grant participation.

Representative costs of complying with 40 CFR Part 4 include services (e.g., legal, engineering, administrative, appraisal, real estate agents, etc.) or other expenses involved in the land acquisition, including:

i. assisting displaced persons to relocate;

ii. surveying and preparing property plats;

iii. moving expenses for displaced persons;

iv. expenses incurred in searching for a replacement dwelling, business, or farm;

v. actual losses incurred by business or farm operations caused by relocation;

vi. legal costs associated with the preparation and filing of documents and court proceedings, including condemnation;

vii. public notices, meetings, and negotiations with displaced persons; and

viii. development of replacement housing.

Each of the representative costs listed above contain limitations concerning reasonableness and allowability which are more fully described in 40 CFR Part 4.

Re: 40 CFR 4.101, 4.201, 4.205, 4.400, 4.503

c. THE COST OF CONTRACTING WITH ANOTHER PUBLIC AGENCY OR QUALIFIED PRIVATE CONTRACTOR FOR PART OR ALL OF THE REQUIRED ACQUISITION AND/OR RELOCATION SERVICES.

d. THE COST ASSOCIATED WITH THE PREPARATION OF THE TREATMENT WORKS SITE BEFORE, DURING AND, TO THE EXTENT AGREED ON IN THE GRANT AGREEMENT, AFTER BUILDING. THESE COSTS INCLUDE:

(1) THE COST OF DEMOLITION OF EXISTING STRUCTURES ON THE TREATMENT WORKS SITE (INCLUDING RIGHTS-OF-WAY) IF BUILDING CANNOT BE UNDERTAKEN WITHOUT SUCH DEMOLITION;

Demolition of existing structures on the treatment works site (including rights-of-way), when not required for building the project, will be considered to be an allowable cost only if the existing structures constitute a real and present hazard to safety, public health, or water quality, which can only be abated by the removal of the existing structures. The demolition of an existing structure for the convenience of the owner as a means of increasing property value or property use is unallowable for grant participation.

(2) THE COST (CONSIDERING SUCH FACTORS AS BETTERMENT, COST OF CONTRACTING AND USEFUL LIFE) OF REMOVAL, RELOCATION OR REPLACEMENT OF UTILITIES, PROVIDED THE GRANTEE IS LEGALLY OBLIGATED TO PAY UNDER STATE OR LOCAL LAW; AND

(3) THE COST OF RESTORING STREETS AND RIGHTS-OF-WAY TO THEIR ORIGINAL CONDITION. THE NEED FOR SUCH RESTORATION MUST RESULT DIRECTLY FROM THE CONSTRUCTION AND IS GENERALLY LIMITED TO REPAVING THE WIDTH OF TRENCH.

Repaving beyond the trench width may be considered to be an allowable cost if uniformly required by State or local law for all projects involving road construction, regardless of the source of project funding. Sometimes referred to as "saw width," this provision requires that the road surface and subsurface be cut one or two feet beyond the trench width. This is not, however, to be interpreted as allowing the cost of complete or partial repaving of a road beyond the "saw width."

e. THE COST OF ACQUIRING ALL OR PART OF AN EXISTING PUBLICLY OR PRIVATELY OWNED WASTEWATER TREATMENT WORKS PROVIDED ALL THE FOLLOWING CRITERIA ARE MET:

(1) THE ACQUISITION, IN AND OF ITSELF, CONSIDERED APART FROM ANY UPGRADE, EXPANSION OR REHABILITATION, PROVIDES NEW POLLUTION CONTROL BENEFITS;

(2) THE ACQUIRED TREATMENT WORKS WAS NOT BUILT WITH PREVIOUS FEDERAL OR STATE FINANCIAL ASSISTANCE;

(3) THE PRIMARY PURPOSE OF THE ACQUISITION IS NOT THE REDUCTION, ELIMINATION, OR REDISTRIBUTION OF PUBLIC OR PRIVATE DEBT; AND

(4) THE ACQUISITION DOES NOT CIRCUMVENT THE REQUIREMENTS OF THE ACT, THESE REGULATIONS, OR OTHER FEDERAL, STATE OR LOCAL REQUIREMENTS.

2. UNALLOWABLE COSTS FOR LAND AND RIGHTS-OF-WAY INCLUDE:

a. THE COSTS OF ACQUISITION (INCLUDING ASSOCIATED LEGAL, ADMINISTRATIVE AND ENGINEERING, ETC.) OF SEWER RIGHTS-OF-WAY, WASTE TREATMENT PLANT SITES (INCLUDING SMALL SYSTEM SITES), SANITARY LANDFILL SITES AND SLUDGE DISPOSAL AREAS EXCEPT AS PROVIDED IN PARAGRAPH 1.a. OF THIS SECTION.

b. ANY AMOUNT PAID BY THE GRANTEE FOR ELIGIBLE LAND IN EXCESS OF JUST COMPENSATION, BASED ON THE APPRAISED VALUE, THE GRANTEE'S RECORD OF NEGOTIATION OR ANY CONDEMNATION PROCEEDING, AS DETERMINED BY THE REGIONAL ADMINISTRATOR.

c. REMOVAL, RELOCATION OR REPLACEMENT OF UTILITIES LOCATED ON LAND BY PRIVILEGE, SUCH AS FRANCHISE.

E. EQUIPMENT, MATERIALS AND SUPPLIES

1. ALLOWABLE COSTS OF EQUIPMENT, MATERIALS AND SUPPLIES INCLUDE:

   a. THE COST OF A REASONABLE INVENTORY OF LABORATORY CHEMICALS AND SUPPLIES NECESSARY TO INITIATE PLANT OPERATIONS AND LABORATORY ITEMS NECESSARY TO CONDUCT TESTS REQUIRED FOR PLANT OPERATION.

      A suggested list of equipment, supplies, and chemicals for various sizes of treatment plants is given in Appendix B of EPA publication 430/9-74-002, "Estimating Laboratory Needs for Municipal Waste Water Treatment Facilities," 1974. Large stocks of expendable materials are, however, not allowable.

   b. THE COSTS FOR PURCHASE AND/OR TRANSPORTATION OF BIOLOGICAL SEEDING MATERIALS REQUIRED FOR EXPEDITIOUSLY INITIATING THE TREATMENT PROCESS OPERATION.

   c. COST OF SHOP EQUIPMENT INSTALLED AT THE TREATMENT WORKS NECESSARY TO THE OPERATION OF THE WORKS.

      The need for installed shop equipment necessary for the operation of the treatment works should be carefully reviewed to insure that it is cost effective when compared to the cost of equipment rental or the procurement of a contractor to perform the required work. The need will depend on the specific item, its frequency of expected use, and the size and complexity of the treatment facility. Undoubtedly, larger treatment facilities will have a greater need for installed shop equipment than smaller ones. For example, a portable welding machine may be appropriate for a large facility, whereas it may be more economical for a smaller community to employ a local welder when necessary. Also, smaller projects may not have the staff (e.g., skilled machinists) necessary to operate some of the equipment. Where the proposed items of equipment are inappropriate to the size of the treatment works, the reviewing agency may determine that the proposed installed shop equipment is unallowable for grant participation.

   d. THE COSTS OF NECESSARY SAFETY EQUIPMENT, PROVIDED THE EQUIPMENT MEETS APPLICABLE FEDERAL, STATE, LOCAL OR INDUSTRY SAFETY REQUIREMENTS.

e. A PORTION OF THE COSTS OF COLLECTION SYSTEM MAINTENANCE EQUIPMENT. THE PORTION OF ALLOWABLE COSTS SHALL BE THE TOTAL EQUIPMENT COST LESS THE COST ATTRIBUTABLE TO THE EQUIPMENT'S ANTICIPATED USE ON EXISTING COLLECTION SEWERS NOT FUNDED ON THE GRANT. THIS CALCULATION SHALL BE BASED ON:

(1) THE PORTION OF THE TOTAL COLLECTION SYSTEM PAID FOR BY THE GRANT,

(2) A DEMONSTRABLE FREQUENCY OF NEED, AND

(3) THE NEED FOR THE EQUIPMENT TO PRECLUDE THE DISCHARGE OR BYPASSING OF UNTREATED WASTEWATER.

See Paragraph E.2.c below for a discussion of other allowable maintenance equipment.

f. THE COST OF MOBILE EQUIPMENT NECESSARY FOR THE OPERATION OF THE OVERALL WASTEWATER TREATMENT FACILITY, TRANSMISSION OF WASTEWATER OR SLUDGE, OR FOR THE MAINTENANCE OF EQUIPMENT. THESE ITEMS INCLUDE:

(1) PORTABLE STAND-BY GENERATORS;

(2) LARGE PORTABLE EMERGENCY PUMPS TO PROVIDE "PUMP-AROUND" CAPABILITY IN THE EVENT OF PUMP STATION FAILURE OR PIPELINE BREAKS: AND

(3) SLUDGE OR SEPTIC TANKS, TRAILERS, AND OTHER VEHICLES HAVING AS THEIR SOLE PURPOSE THE TRANSPORTATION OF LIQUID OR DEWATERED WASTES FROM THE COLLECTOR POINT (INCLUDING INDIVIDUAL OR ONSITE SYSTEMS) TO THE TREATMENT FACILITY OR DISPOSAL SITE.

Mobile equipment necessary for the operation of the overall wastewater treatment facility may also include vehicles necessary for the daily removal and disposal of grit. While vehicles used for other purposes (e.g., sludge tanks or trailers) would normally serve this purpose, large facilities may have a sufficient need to justify a separate vehicle to be used solely for the transportation and disposal of grit. Additionally, for projects which involve the landspreading of sludge as the method of ultimate sludge disposal, the necessary vehicles and equipment for proper sludge application are allowable for grant participation.

g. REPLACEMENT PARTS IDENTIFIED AND APPROVED IN ADVANCE BY THE REGIONAL ADMINISTRATOR AS NECESSARY TO ASSURE UNINTERRUPTED OPERATION OF THE FACILITY, PROVIDED THEY ARE CRITICAL PARTS OR MAJOR SYSTEMS COMPONENTS WHICH ARE:

(1) NOT IMMEDIATELY AVAILABLE AND/OR WHOSE PROCUREMENT INVOLVES AN EXTENDED "LEAD-TIME";

(2) IDENTIFIED AS CRITICAL BY THE EQUIPMENT SUPPLIERS(S); OR

(3) CRITICAL BUT NOT INCLUDED IN THE INVENTORY PROVIDED BY THE EQUIPMENT SUPPLIER(S).

2. UNALLOWABLE COSTS OF EQUIPMENT, MATERIALS, AND SUPPLIES INCLUDE:

a. THE COSTS OF EQUIPMENT OR MATERIAL PROCURED IN VIOLATION OF THE PROCUREMENT REQUIREMENTS OF 40 CFR PART 33.

b. THE COST OF FURNISHINGS INCLUDING DRAPERIES, FURNITURE AND OFFICE EQUIPMENT.

Because of their wide range in price and their transportability, office furnishings such as chairs, desks, file cabinets, typewriters, coffee tables, pictures, draperies, televisions, radios, telephones, tape recording devices, office supplies, calculators, indoor plants, copiers, book cases or shelves, lamps, food preparation equipment, postage meters, and other items of a similar nature are not allowable costs for grant participation.

c. THE COST OF ORDINARY SITE AND BUILDING MAINTENANCE EQUIPMENT SUCH AS LAWNMOWERS AND SNOWBLOWERS.

Site and building maintenance equipment also includes rakes, shovels, brooms, picks, hedge trimmers, and other such equipment which is transportable and is used for routine maintenance. Such equipment is not allowable for grant participation.

Hand tools (other than those which are specified by the equipment supplier or manufacturer as special purpose tools necessary for the repair and adjustment of specific process components) such as screw drivers, pliers, socket wrenches, electric drills or saws, etc. are not allowable for grant participation.

d. THE COST OF VEHICLES FOR THE TRANSPORTATION OF THE GRANTEES' EMPLOYEES.

This includes buses, trucks, cars, motorcycles, golf carts, bicycles, etc. However, mobile training units may be allowable for grant participation under State training grants authorized by Section 109(b)(1) of the CWA.

e. ITEMS OF ROUTINE "PROGRAMMED" MAINTENANCE SUCH AS ORDINARY PIPING, AIR FILTERS, COUPLINGS, HOSE, BOLTS, ETC.

F. INDUSTRIAL AND FEDERAL USERS

1. EXCEPT AS PROVIDED IN PARAGRAPH F.2.a, ALLOWABLE COSTS FOR INDUSTRIAL AND FEDERAL FACILITIES INCLUDE DEVELOPMENT OF A MUNICIPAL PRETREATMENT PROGRAM APPROVABLE UNDER PART 403 OF THIS CHAPTER, AND PURCHASE OF MONITORING EQUIPMENT AND CONSTRUCTION OF FACILITIES TO BE USED BY THE MUNICIPAL TREATMENT WORKS IN THE PRETREATMENT PROGRAM.

The costs of developing a municipal pretreatment program must be carefully examined, primarily in relation to the timing of preparation. The subject of industrial pretreatment would normally be examined during facilities planning (see Section IV.E.2), at which time the grant applicant is able to consider alternative treatment processes and sludge disposal techniques only if the characteristics and flow rate of wastes are known. Similarly, a project may only be designed and construction drawings prepared when the specific waste treatment requirements are known. EPA regulations also require that the UC system and the SUO be approved prior to grant award. Both of these items require specific consideration of industrial waste discharges.

Where the costs of developing a pretreatment program have been incurred prior to grant award, such costs are unallowable. Where the costs of development of a pretreatment program are included in the grant application, approved by the reviewing agency, and incurred after grant award, such costs are allowable for grant participation.

2. UNALLOWABLE COSTS FOR INDUSTRIAL AND FEDERAL FACILITIES INCLUDE:

   a. THE COST OF DEVELOPING AN APPROVABLE MUNICIPAL PRETREATMENT PROGRAM WHEN PERFORMED SOLELY FOR THE PURPOSE OF SEEKING AN ALLOWANCE FOR REMOVAL OF POLLUTANTS UNDER PART 403 OF THIS CHAPTER.

   b. THE COST OF MONITORING EQUIPMENT USED BY INDUSTRY FOR SAMPLING AND ANALYSIS OF INDUSTRIAL DISCHARGES TO MUNICIPAL TREATMENT WORKS.

   c. ALL INCREMENTAL COSTS FOR SLUDGE MANAGEMENT INCURRED AS A RESULT OF THE GRANTEE PROVIDING REMOVAL CREDITS TO INDUSTRIAL USERS UNDER 40 CFR 403.7 BEYOND THOSE SLUDGE MANAGEMENT COSTS THAT WOULD OTHERWISE BE INCURRED IN THE ABSENCE OF SUCH REMOVAL CREDITS.

G. INFILTRATION/INFLOW

1. ALLOWABLE COSTS INCLUDE:

   a. THE COST OF TREATMENT WORKS CAPACITY ADEQUATE TO TRANSPORT AND TREAT NONEXCESSIVE INFILTRATION/INFLOW UNDER §35.2120.

   b. THE COSTS OF SEWER SYSTEM REHABILITATION NECESSARY TO ELIMINATE EXCESSIVE INFILTRATION/INFLOW AS DETERMINED IN A SEWER SYSTEM STUDY UNDER §35.2120.

2. UNALLOWABLE COSTS INCLUDE:

a. WHEN THE REGIONAL ADMINISTRATOR DETERMINES THAT THE FLOW RATE IS NOT SIGNIFICANTLY MORE THAN 120 GALLONS PER CAPITA PER DAY UNDER §35.2120(c)(2)(ii), THE INCREMENTAL COST OF TREATMENT WORKS CAPACITY WHICH IS MORE THAN 120 GALLONS PER CAPITA PER DAY.

See Section IV.C.4.3 for a more complete discussion of infiltration/inflow (I/I).

H. MISCELLANEOUS COSTS

1. ALLOWABLE COSTS INCLUDE:

a. THE COSTS OF SALARIES, BENEFITS AND EXPENDABLE MATERIALS THE GRANTEE INCURS FOR THE PROJECT.

In general, the salaries and benefits referred to here are for the grantee's employees (other than elected and appointed officials, as discussed in Paragraph 2.a below), and may be either:

i. specifically identified administrative work which is not a general expense of local government, or

ii. force account work (see Section VI.E.5) for building or building related activities.

Such costs must be included in the grant application and approved by the reviewing agency. Benefits (e.g., health insurance, vacation and holiday compensation, etc.) are overhead items, and to be allowable for grant participation, they must be included in a negotiated indirect cost agreement (see Section F.2.d.ii above).

b. UNLESS OTHERWISE SPECIFIED IN THIS REGULATION, THE COSTS OF MEETING SPECIFIC FEDERAL STATUTORY PROCEDURES.

To be allowable, the costs of meeting Federal statutory requirements must be either approved as a preaward cost, or incurred after grant award. Costs incurred to satisfy statutory requirements for grant award (e.g., preparation of a facilities plan, construction drawings and specifications, UC system, SUO, etc.) are not allowable for grant participation, but are part of the preapplication work which is intended to be defrayed, in part, by the allowance for facilities planning and/or design.

c. COSTS FOR NECESSARY TRAVEL DIRECTLY RELATED TO ACCOMPLISHMENT OF PROJECT OBJECTIVES. TRAVEL NOT DIRECTLY RELATED TO A SPECIFIC PROJECT, SUCH AS TRAVEL TO PROFESSIONAL MEETINGS, SYMPOSIA, TECHNOLOGY TRANSFER SEMINARS, LECTURES, ETC., MAY BE RECOVERED ONLY UNDER AN INDIRECT COST AGREEment.

d. THE COSTS OF ADDITIONS TO A TREATMENT WORKS THAT WAS ASSISTED UNDER THE FEDERAL WATER POLLUTION CONTROL ACT OF 1956 (PUB. L. 84-660), OR ITS AMENDMENTS, AND THAT FAILS TO MEET ITS PROJECT PERFORMANCE STANDARDS PROVIDED:

    (1) THE PROJECT IS IDENTIFIED ON THE STATE PRIORITY LIST AS A PROJECT FOR ADDITIONS TO A TREATMENT WORKS THAT HAS RECEIVED PREVIOUS FEDERAL FUNDS;

    (2) THE GRANT APPLICATION FOR THE ADDITIONS INCLUDES AN ANALYSIS OF WHY THE TREATMENT WORKS CANNOT MEET ITS PROJECT PERFORMANCE STANDARDS; AND

    (3) THE ADDITIONS COULD HAVE BEEN INCLUDED IN THE ORIGINAL GRANT AWARD AND:

        (a) ARE THE RESULT OF ONE OF THE FOLLOWING:

            (i) A CHANGE IN THE PROJECT PERFORMANCE STANDARDS REQUIRED BY EPA OR THE STATE:

            (ii) A WRITTEN UNDERSTANDING BETWEEN THE REGIONAL ADMINISTRATOR AND GRANTEE PRIOR TO OR INCLUDED IN THE ORIGINAL GRANT AWARD:

(iii) A WRITTEN DIRECTION BY THE REGIONAL ADMINISTRATOR TO DELAY BUILDING PART OF THE TREATMENT WORKS; OR

(iv) A MAJOR CHANGE IN THE TREATMENT WORKS' DESIGN CRITERIA THAT THE GRANTEE CANNOT CONTROL; OR

(b) MEET ALL THE FOLLOWING CONDITIONS:

(i) IF THE ORIGINAL GRANT AWARD WAS MADE AFTER DECEMBER 28, 1981, THE TREATMENT WORKS HAS NOT COMPLETED ITS FIRST FULL YEAR OF OPERATION;

(ii) THE ADDITIONS ARE NOT CAUSED BY THE GRANTEE'S MISMANAGEMENT OR THE IMPROPER ACTIONS OF OTHERS;

(iii) THE COSTS OF REWORK, DELAY, ACCELERATION OR DISRUPTION THAT ARE A RESULT OF BUILDING THE ADDITIONS ARE NOT INCLUDED IN THE GRANT; AND

(iv) THE GRANT DOES NOT INCLUDE AN ALLOWANCE FOR FACILITIES PLANNING OR DESIGN OF THE ADDITIONS.

(4) THIS PROVISION APPLIES TO FAILURES THAT OCCUR EITHER BEFORE OR AFTER THE INITIATION OF OPERATION. THIS PROVISION DOES NOT COVER A TREATMENT WORKS THAT FAILS AT THE END OF ITS DESIGN LIFE.

e. COST OF ROYALTIES FOR THE USE OF OR RIGHTS IN A PATENTED PROCESS OR PRODUCT WITH THE PRIOR APPROVAL OF THE REGIONAL ADMINISTRATOR.

Reasonable royalties associated with the procurement of the right to use, or the rights in, a patented product, apparatus, or process are allowable costs, provided that they are:

- necessary,
- cost effective,

- based on a published fee schedule or on reasonable fees charged to other users under similar conditions, and

- receive prior written approval from the reviewing agency.

Periodic payment of royalties for the right to operate under a patent are considered operating costs, and are unallowable for grant participation (see Section V.E for a discussion of operating costs).

f. COSTS ALLOCABLE TO WATER POLLUTION CONTROL PURPOSE OF MULTIPLE PURPOSE PROJECTS AS DETERMINED BY APPLYING THE ALTERNATIVE JUSTIFIABLE EXPENDITURE (AJE) METHOD DESCRIBED IN THE CG SERIES. MULTIPLE PURPOSE PROJECTS THAT COMBINE WASTEWATER TREATMENT WITH RECREATION DO NOT NEED TO USE THE AJE METHOD, BUT CAN BE FUNDED AT THE LEVEL OF THE MOST COST-EFFECTIVE SINGLE-PURPOSE ALTERNATIVE.

See Section IV.C.7.1.h.

g. COSTS OF GRANTEE EMPLOYEES ATTENDING TRAINING WORKSHOPS/ SEMINARS THAT ARE NECESSARY TO PROVIDE INSTRUCTION IN ADMINISTRATIVE, FISCAL OR CONTRACTING PROCEDURES REQUIRED TO COMPLETE THE CONSTRUCTION OF THE TREATMENT WORKS, IF APPROVED IN ADVANCE BY THE REGIONAL ADMINISTRATOR.

To be allowable, attendance at such training workshops or seminars may only occur after grant award.

2. UNALLOWABLE COSTS INCLUDE:

a. ORDINARY OPERATING EXPENSES OF THE GRANTEE INCLUDING SALARIES AND EXPENSES OF ELECTED AND APPOINTED OFFICIALS AND PREPARATION OF ROUTINE FINANCIAL REPORTS AND STUDIES.

b. PREPARATION OF APPLICATIONS AND PERMITS REQUIRED BY FEDERAL, STATE OR LOCAL REGULATIONS OR PROCEDURES.

c. ADMINISTRATIVE, ENGINEERING AND LEGAL ACTIVITIES ASSOCIATED WITH THE ESTABLISHMENT OF SPECIAL DEPARTMENTS, AGENCIES, COMMISSIONS, REGIONS, DISTRICTS OR OTHER UNITS OF GOVERNMENT.

d. APPROVAL, PREPARATION, ISSUANCE AND SALE OF BONDS OR OTHER FORMS OF INDEBTEDNESS REQUIRED TO FINANCE THE PROJECT AND THE INTEREST ON THEM.

e. THE COSTS OF REPLACING, THROUGH RECONSTRUCTION OR SUBSTITUTION, A TREATMENT WORKS THAT WAS ASSISTED UNDER THE FEDERAL WATER POLLUTION CONTROL ACT OF 1956 (PUB. L. 84-660), OR ITS AMENDMENTS, AND THAT FAILS TO MEET ITS PROJECT PERFORMANCE STANDARDS. THIS PROVISION APPLIES TO FAILURES THAT OCCUR EITHER BEFORE OR AFTER THE INITIATION OF OPERATION. THIS PROVISION DOES NOT APPLY TO AN INNOVATIVE AND ALTERNATIVE TREATMENT WORKS ELIGIBLE FOR FUNDING UNDER §35.2032(c) OR A TREATMENT WORKS THAT FAILS AT THE END OF ITS DESIGN LIFE.

f. PERSONAL INJURY COMPENSATION OR DAMAGES ARISING OUT OF THE PROJECT.

g. FINES AND PENALITIES DUE TO VIOLATIONS OF, OR FAILURE TO COMPLY WITH, FEDERAL, STATE OR LOCAL LAWS, REGULATIONS OR PROCEDURES.

h. COSTS OUTSIDE THE SCOPE OF THE APPROVED PROJECT.

i. COSTS FOR WHICH GRANT PAYMENT HAS BEEN OR WILL BE RECEIVED FROM ANOTHER FEDERAL AGENCY.

j. COSTS OF TREATMENT WORKS FOR CONTROL OF POLLUTANT DISCHARGES FROM A SEPARATE STORM SEWER SYSTEM.

k. THE COST OF TREATMENT WORKS THAT WOULD PROVIDE CAPACITY FOR NEW HABITATION OR OTHER ESTABLISHMENTS TO BE LOCATED ON ENVIRONMENTALLY SENSITIVE LAND SUCH AS WETLANDS OR FLOODPLAINS.

After September 30, 1984, grant assistance is limited to the capacity necessary to serve existing needs on the date of grant award (see Section VI.D.18). Therefore, the cost of providing capacity for new habitation is unallowable in all cases. However, if a treatment works includes any reserve capacity which could induce development on environmentally sensitive lands (see

Section IV.D.2.2), the cost of the entire treatment works will be unallowable for grant assistance.

1. THE COSTS OF PREPARING A CORRECTIVE ACTION REPORT REQUIRED BY §35.2218(c).

   See Section VII.I.2.b.

3. Other Costs

The following items are not explicitly included in 40 CFR Part 35, Subpart I, Appendix A, but represent prudent fiscal and management principles, based on statutory requirements, regulations, and procedent cases:

a. Administration Building

Allowable costs for an administration building include those portions of the building which are directly related to the project and necessary for operating personnel, including the laboratory, employee locker rooms (separate locker rooms should be provided for men and women), workshop area, storage facilities for operational supplies, spare parts and equipment, necessary lavatory facilities, operator office space, etc. Those portions of an administration building which are not necessary for the daily operation and maintenance of the project are unallowable costs, including portions of the building used for public works functions (other than wastewater treatment), general accounting functions, conference rooms with associated audio-visual equipment, or other general uses not necessary for the operation of the project. Where larger facilities include conference rooms to be used exclusively for training of employees, and such training is demonstrated to be a part of the project's plan of operation, such space is allowable if reasonable, and if approved by the reviewing agency as part of the grant award.

Where unallowable building space is included in an otherwise allowable administration building, the allowable cost is determined by using the ratio of allowable floor space divided by the total floor space in the building. The costs of buildings and portions of buildings which are unallowable are to be deducted from the allowable project building costs for grant computation purposes. Costs associated with unallowable buildings and portions of buildings (e.g., landscaping, driveways, parking spaces, electrical service, and other utility costs) are also unallowable, and must be deducted proportionately from the allowable building costs.

b. Computers

Computers, display monitors, and computer software which are designed into the control system for the daily operation of the treatment works, are allowable project costs, but only to the extent that such equipment is dedicated solely to the operation of the treatment works.

Portable or personal computers are normally not allowable for grant participation, unless justified by the grantee and approved by the reviewing agency as necessary for the operational control and analysis of the treatment works. Examples of such allowable uses include the scheduling of equipment maintenance and replacement, and the operation of the grantee's pretreatment program, including the scheduling of tests to verify industrial compliance with pretreatment requirements. Where portable and personal computers are intended to be used for accounting and billing services as well as the operational control of the treatment works, the costs are to be prorated, based on the estimated use for each purpose.

The cost of computer programs (i.e., software) specifically designed for the operation and maintenance of the treatment works is allowable for grant participation. This includes the cost of developing unique operating programs for the specific grant funded project.

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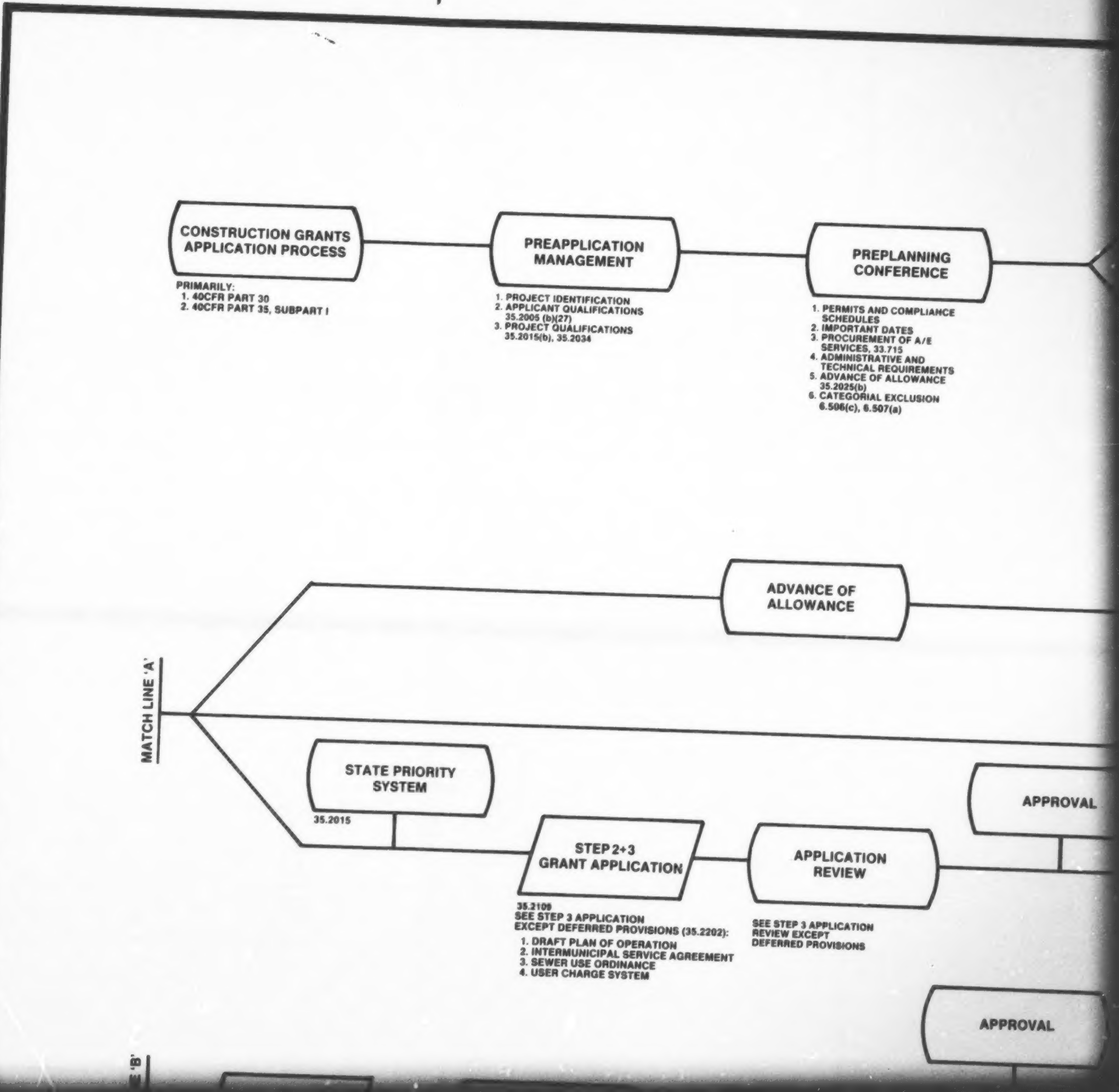
CONSTRUCTION GRANTS APPLICATION PROCESS
PRIMARILY:
1. 40CFR PART 30
2. 40CFR PART 35, SUBPART I
PREAPPLICATION MANAGEMENT
1. PROJECT IDENTIFICATION
2. APPLICANT QUALIFICATIONS 35.2005 (b)(27)
3. PROJECT QUALIFICATIONS 35.2015(b), 35.2034
PREPLANNING CONFERENCE
1. PERMITS AND COMPLIANCE SCHEDULES
2. IMPORTANT DATES
3. PROCUREMENT OF A/E SERVICES, 33.715
4. ADMINISTRATIVE AND TECHNICAL REQUIREMENTS
5. ADVANCE OF ALLOWANCE 35.2025(b)
6. CATEGORIAL EXCLUSION 6.506(c), 6.507(a)
ADVANCE OF ALLOWANCE
MATCH LINE 'A'
STATE PRIORITY SYSTEM
35.2015
STEP 2+3 GRANT APPLICATION
35.2109
SEE STEP 3 APPLICATION
EXCEPT DEFERRED PROVISIONS (35.2202):
1. DRAFT PLAN OF OPERATION
2. INTERMUNICIPAL SERVICE AGREEMENT
3. SEWER USE ORDINANCE
4. USER CHARGE SYSTEM
APPLICATION REVIEW
SEE STEP 3 APPLICATION REVIEW EXCEPT DEFERRED PROVISIONS
APPROVAL
APPROVAL
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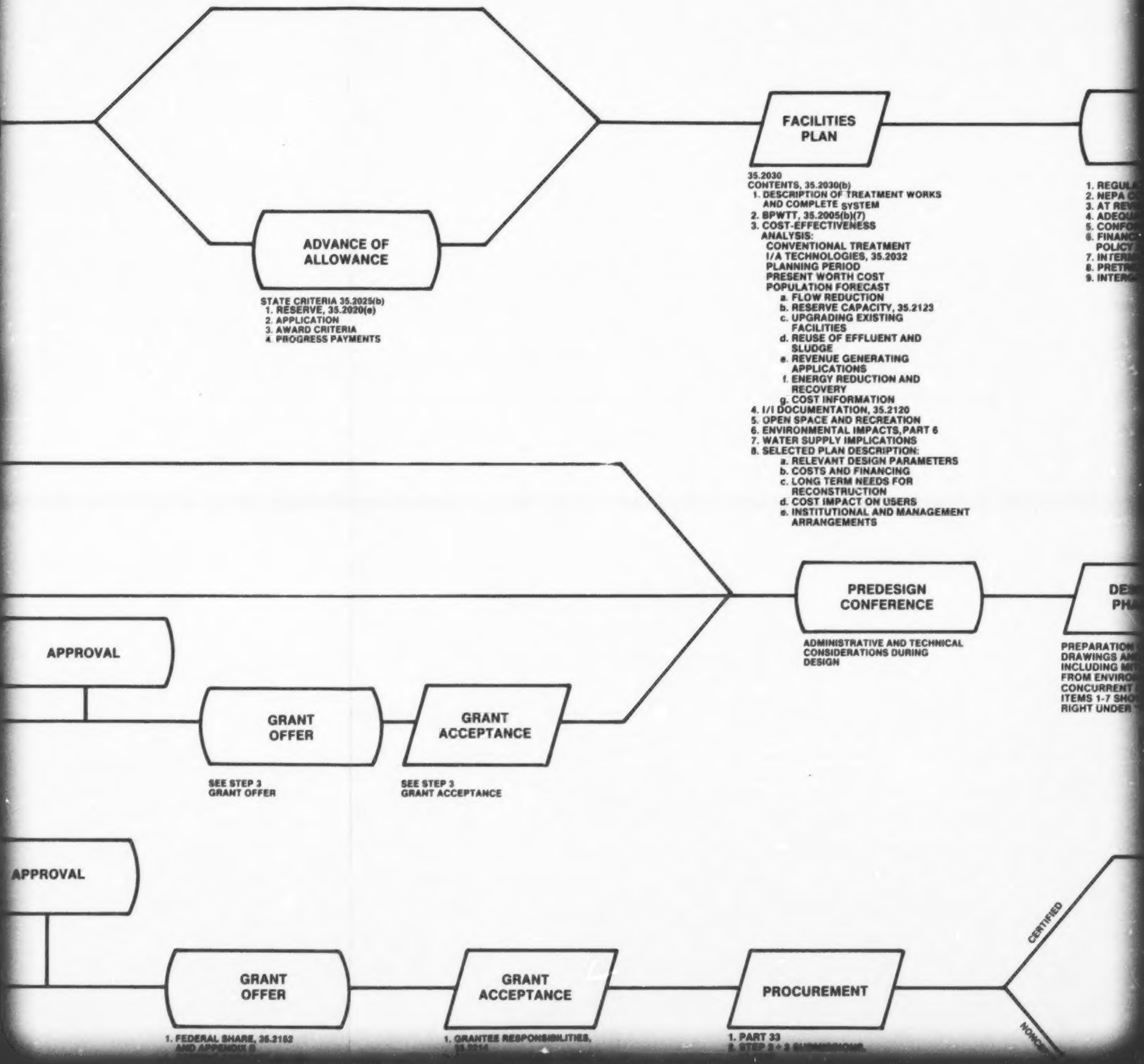

STATE CRITERIA 35.2025(b)
1. RESERVE, 35.2020(e)
2. APPLICATION
3. AWARD CRITERIA
4. PROGRESS PAYMENTS

35.2030
CONTENTS, 35.2030(b)
1. DESCRIPTION OF TREATMENT WORKS AND COMPLETE SYSTEM
2. BPWTT, 35.2005(b)(7)
3. COST-EFFECTIVENESS ANALYSIS:
    CONVENTIONAL TREATMENT
    I/A TECHNOLOGIES, 35.2032
    PLANNING PERIOD
    PRESENT WORTH COST
    POPULATION FORECAST
        a. FLOW REDUCTION
        b. RESERVE CAPACITY, 35.2123
        c. UPGRADING EXISTING FACILITIES
        d. REUSE OF EFFLUENT AND SLUDGE
        e. REVENUE GENERATING APPLICATIONS
        f. ENERGY REDUCTION AND RECOVERY
        g. COST INFORMATION
4. I/I DOCUMENTATION, 35.2120
5. OPEN SPACE AND RECREATION
6. ENVIRONMENTAL IMPACTS, PART 6
7. WATER SUPPLY IMPLICATIONS
8. SELECTED PLAN DESCRIPTION:
    a. RELEVANT DESIGN PARAMETERS
    b. COSTS AND FINANCING
    c. LONG TERM NEEDS FOR RECONSTRUCTION
    d. COST IMPACT ON USERS
    e. INSTITUTIONAL AND MANAGEMENT ARRANGEMENTS

1. REGUL
2. NEPA C
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4. ADEQU
5. CONFO
6. FINANC
POLICY
7. INTER
8. PRETR
9. INTERG

ADMINISTRATIVE AND TECHNICAL CONSIDERATIONS DURING DESIGN

PREPARATION
DRAWINGS A
INCLUDING M
FROM ENVIRO
CONCURRENT
ITEMS 1-7 SHO
RIGHT UNDER

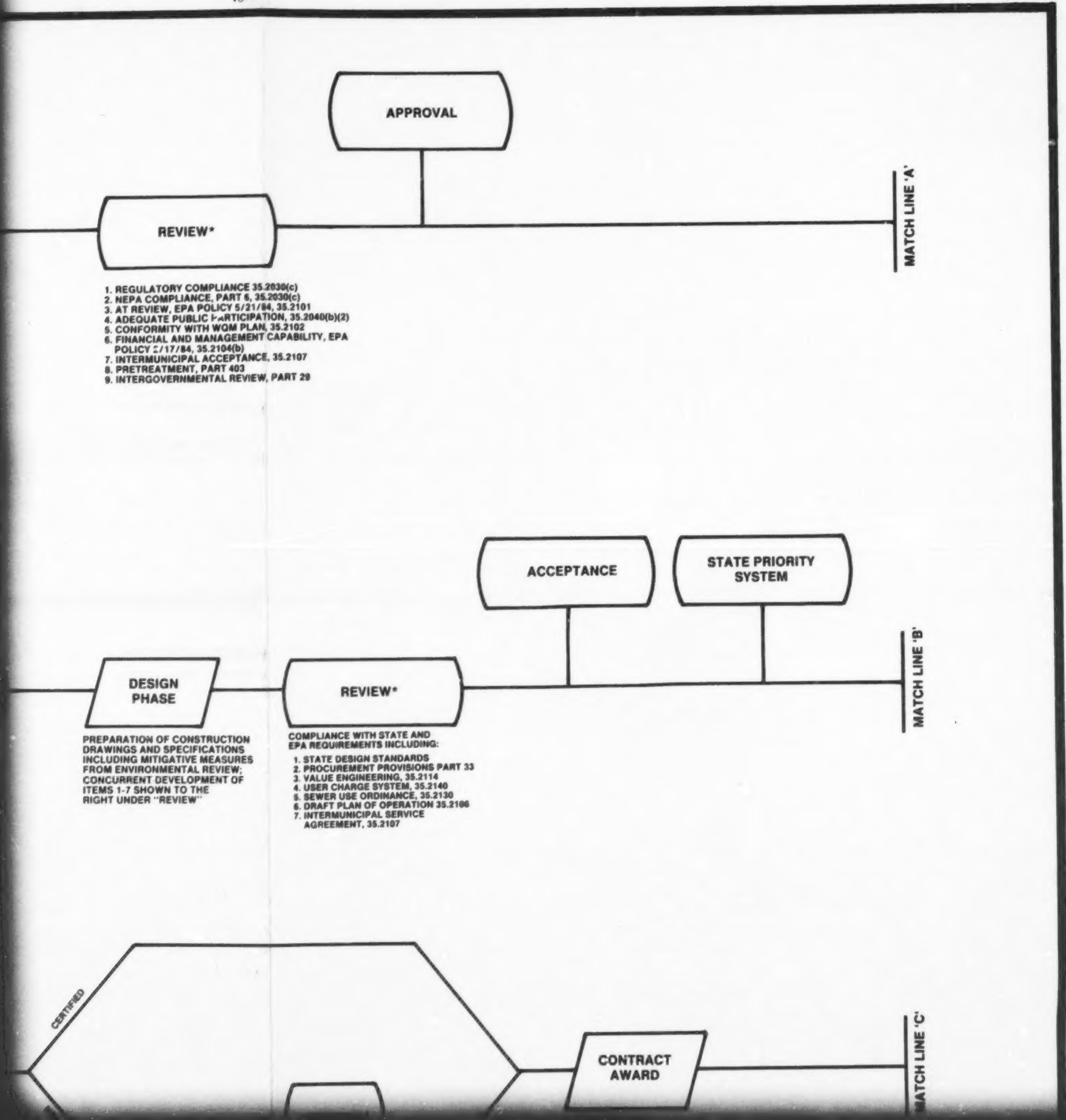
SEE STEP 3 GRANT OFFER

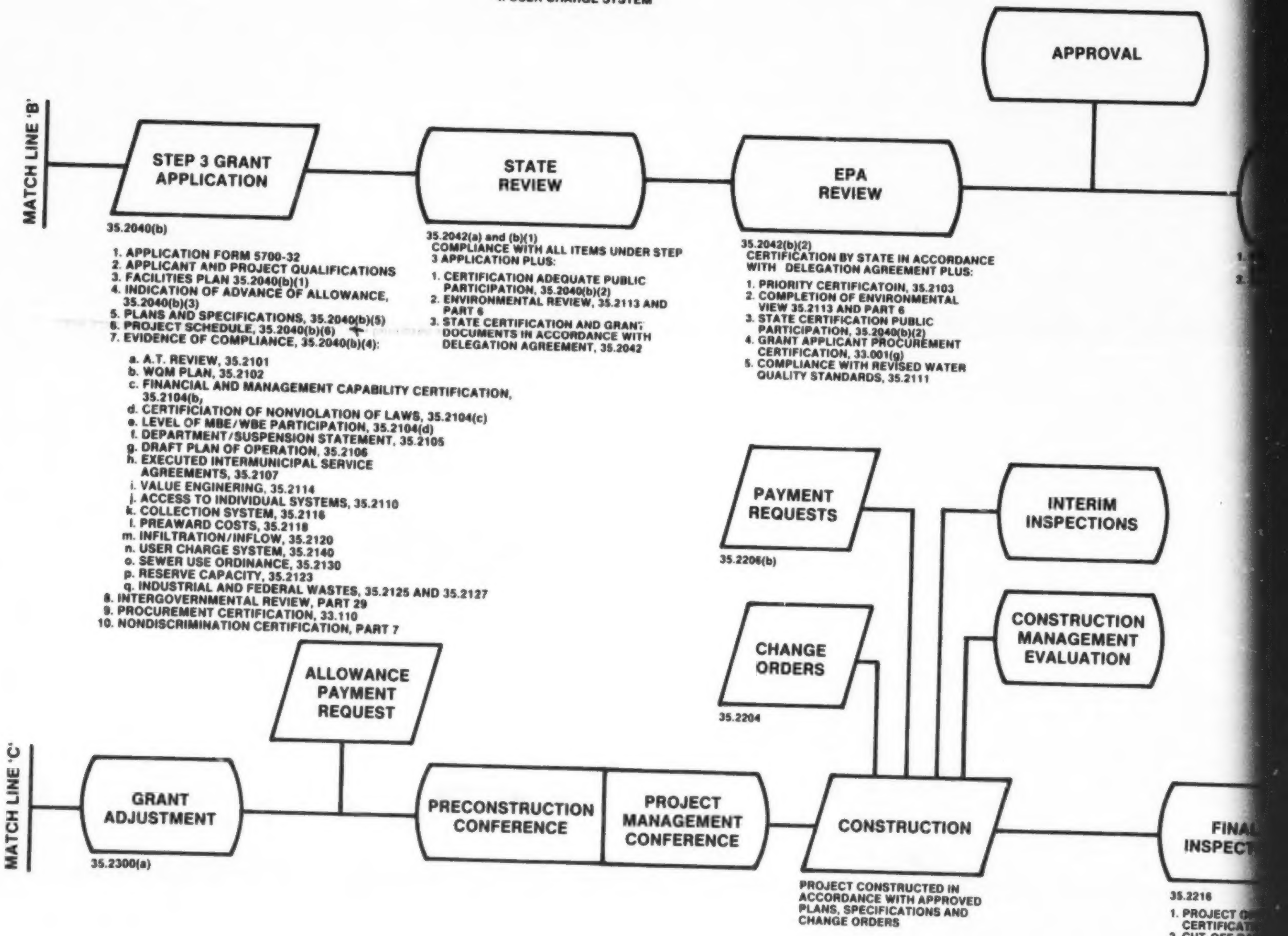
SEE STEP 3 GRANT ACCEPTANCE

1. FEDERAL SHARE, 35.2152 AND APPENDIX B

1. GRANTEE RESPONSIBILITIES, 35.2214

1. PART 33
2. STEP 2 + 3 SUBMISSIONS,


APPROVAL
REVIEW*
MATCH LINE 'A'
1. REGULATORY COMPLIANCE 35.2030(c)
2. NEPA COMPLIANCE, PART 6, 35.2030(c)
3. AT REVIEW, EPA POLICY 5/21/84, 35.2101
4. ADEQUATE PUBLIC PARTICIPATION, 35.2040(b)(2)
5. CONFORMITY WITH WQM PLAN, 35.2102
6. FINANCIAL AND MANAGEMENT CAPABILITY, EPA POLICY 2/17/84, 35.2104(b)
7. INTERMUNICIPAL ACCEPTANCE, 35.2107
8. PRETREATMENT, PART 403
9. INTERGOVERNMENTAL REVIEW, PART 29
ACCEPTANCE
STATE PRIORITY SYSTEM
DESIGN PHASE
REVIEW*
MATCH LINE 'B'
PREPARATION OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS INCLUDING MITIGATIVE MEASURES FROM ENVIRONMENTAL REVIEW; CONCURRENT DEVELOPMENT OF ITEMS 1-7 SHOWN TO THE RIGHT UNDER "REVIEW"
COMPLIANCE WITH STATE AND EPA REQUIREMENTS INCLUDING:
1. STATE DESIGN STANDARDS
2. PROCUREMENT PROVISIONS PART 33
3. VALUE ENGINEERING, 35.2114
4. USER CHARGE SYSTEM, 35.2140
5. SEWER USE ORDINANCE, 35.2130
6. DRAFT PLAN OF OPERATION 35.2106
7. INTERMUNICIPAL SERVICE AGREEMENT, 35.2107
CERTIFIED
CONTRACT AWARD
MATCH LINE 'C'



SEE STEP 3 APPLICATION
EXCEPT DEFERRED PROVISIONS (35.2202):

1. DRAFT PLAN OF OPERATION
2. INTERMUNICIPAL SERVICE AGREEMENT
3. SEWER USE ORDINANCE
4. USER CHARGE SYSTEM

SEE STEP 3 APPLICATION
REVIEW EXCEPT
DEFERRED PROVISIONS

35.2040(b)

1. APPLICATION FORM 5700-32
2. APPLICANT AND PROJECT QUALIFICATIONS
3. FACILITIES PLAN 35.2040(b)(1)
4. INDICATION OF ADVANCE OF ALLOWANCE, 35.2040(b)(3)
5. PLANS AND SPECIFICATIONS, 35.2040(b)(5)
6. PROJECT SCHEDULE, 35.2040(b)(6)
7. EVIDENCE OF COMPLIANCE, 35.2040(b)(4):
   - a. A.T. REVIEW, 35.2101
   - b. WQM PLAN, 35.2102
   - c. FINANCIAL AND MANAGEMENT CAPABILITY CERTIFICATION, 35.2104(b,
   - d. CERTIFICIATION OF NONVIOLATION OF LAWS, 35.2104(c)
   - e. LEVEL OF MBE/WBE PARTICIPATION, 35.2104(d)
   - f. DEPARTMENT/SUSPENSION STATEMENT, 35.2105
   - g. DRAFT PLAN OF OPERATION, 35.2106
   - h. EXECUTED INTERMUNICIPAL SERVICE AGREEMENTS, 35.2107
   - i. VALUE ENGINERING, 35.2114
   - j. ACCESS TO INDIVIDUAL SYSTEMS, 35.2110
   - k. COLLECTION SYSTEM, 35.2116
   - l. PREAWARD COSTS, 35.2118
   - m. INFILTRATION/INFLOW, 35.2120
   - n. USER CHARGE SYSTEM, 35.2140
   - o. SEWER USE ORDINANCE, 35.2130
   - p. RESERVE CAPACITY, 35.2123
   - q. INDUSTRIAL AND FEDERAL WASTES, 35.2125 AND 35.2127
8. INTERGOVERNMENTAL REVIEW, PART 29
9. PROCUREMENT CERTIFICATION, 33.110
10. NONDISCRIMINATION CERTIFICATION, PART 7

35.2042(a) and (b)(1)
COMPLIANCE WITH ALL ITEMS UNDER STEP 3 APPLICATION PLUS:

1. CERTIFICATION ADEQUATE PUBLIC PARTICIPATION, 35.2040(b)(2)
2. ENVIRONMENTAL REVIEW, 35.2113 AND PART 6
3. STATE CERTIFICATION AND GRANT DOCUMENTS IN ACCORDANCE WITH DELEGATION AGREEMENT, 35.2042

35.2042(b)(2)
CERTIFICATION BY STATE IN ACCORDANCE WITH DELEGATION AGREEMENT PLUS:

1. PRIORITY CERTIFICATOIN, 35.2103
2. COMPLETION OF ENVIRONMENTAL VIEW 35.2113 AND PART 6
3. STATE CERTIFICATION PUBLIC PARTICIPATION, 35.2040(b)(2)
4. GRANT APPLICANT PROCUREMENT CERTIFICATION, 33.001(g)
5. COMPLIANCE WITH REVISED WATER QUALITY STANDARDS, 35.2111

1.
2.

35.2206(b)

35.2204

35.2300(a)

PROJECT CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS, SPECIFICATIONS AND CHANGE ORDERS

35.2216

1. PROJECT
   CERTIFICAT
2. CUT-OFF DA
3. PROJECT
4. COST SUM
5. SATISFACTI
   REGULATOR
   AND GRANT
6. ADOPTION
   35.2208
7. ALLOWABLE
   AND APPE

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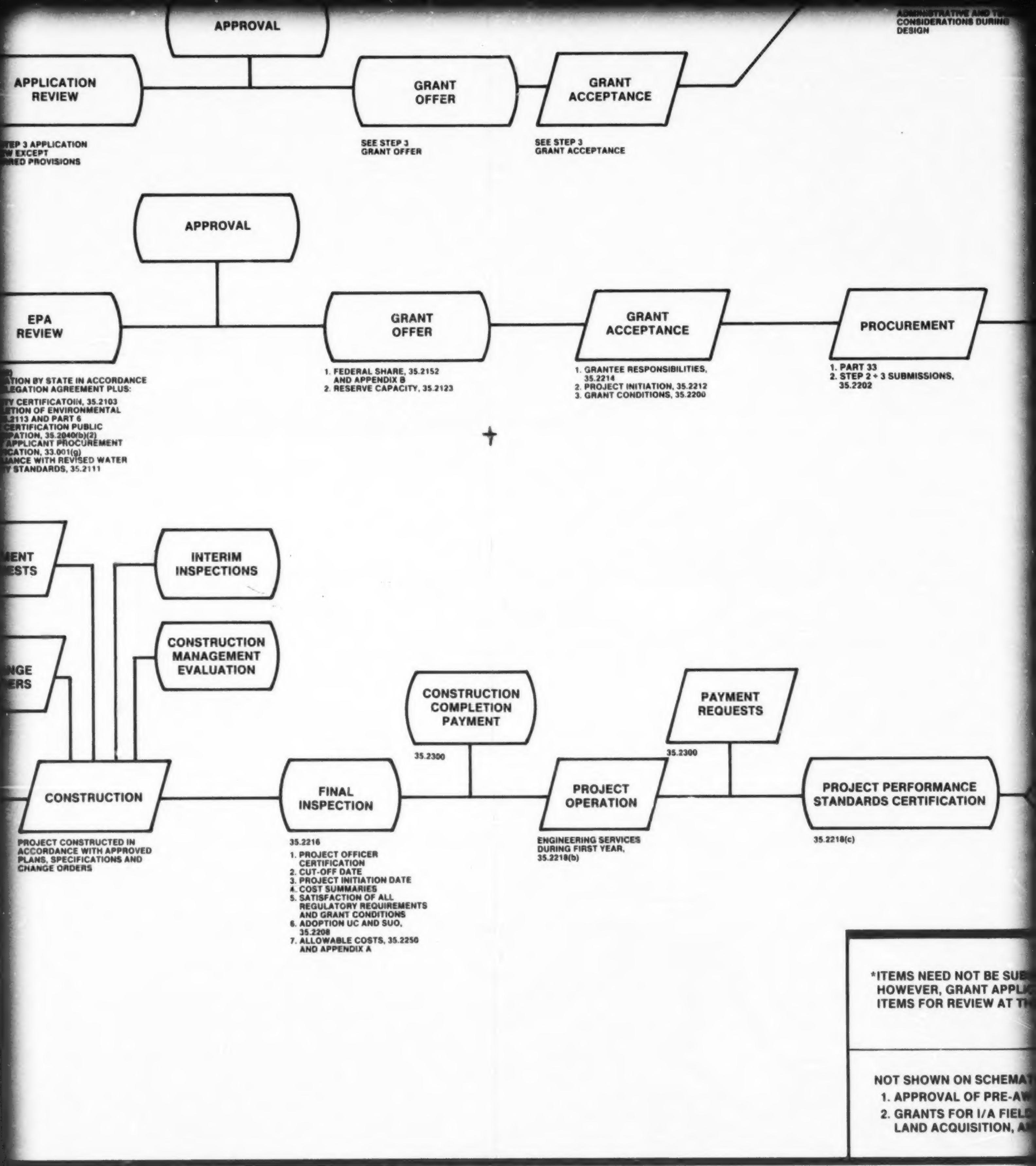
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SEE STEP 3
GRANT OFFER
SEE STEP 3
GRANT ACCEPTANCE
APPROVAL
EPA REVIEW
GRANT OFFER
GRANT ACCEPTANCE
PROCUREMENT
ATION BY STATE IN ACCORDANCE
LEGATION AGREEMENT PLUS:
TY CERTIFICATOIN, 35.2103
LETION OF ENVIRONMENTAL
.2113 AND PART 6
CERTIFICATION PUBLIC
PATION, 35.2040(b)(2)
APPLICANT PROCUREMENT
CATION, 33.001(g)
IANCE WITH REVISED WATER
Y STANDARDS, 35.2111
1. FEDERAL SHARE, 35.2152
AND APPENDIX B
2. RESERVE CAPACITY, 35.2123
1. GRANTEE RESPONSIBILITIES,
35.2214
2. PROJECT INITIATION, 35.2212
3. GRANT CONDITIONS, 35.2200
1. PART 33
2. STEP 2 + 3 SUBMISSIONS,
35.2202
MENT
ESTS
INTERIM INSPECTIONS
CONSTRUCTION MANAGEMENT EVALUATION
NGE
ERS
CONSTRUCTION COMPLETION PAYMENT
35.2300
PAYMENT REQUESTS
35.2300
CONSTRUCTION
FINAL INSPECTION
PROJECT OPERATION
PROJECT PERFORMANCE STANDARDS CERTIFICATION
PROJECT CONSTRUCTED IN
ACCORDANCE WITH APPROVED
PLANS, SPECIFICATIONS AND
CHANGE ORDERS
35.2216
1. PROJECT OFFICER
CERTIFICATION
2. CUT-OFF DATE
3. PROJECT INITIATION DATE
4. COST SUMMARIES
5. SATISFACTION OF ALL
REGULATORY REQUIREMENTS
AND GRANT CONDITIONS
6. ADOPTION UC AND SUO,
35.2208
7. ALLOWABLE COSTS, 35.2250
AND APPENDIX A
ENGINEERING SERVICES
DURING FIRST YEAR,
35.2218(b)
35.2218(c)
*ITEMS NEED NOT BE SUB
HOWEVER, GRANT APPLIC
ITEMS FOR REVIEW AT TH
NOT SHOWN ON SCHEMAT
1. APPROVAL OF PRE-AW
2. GRANTS FOR I/A FIELD
LAND ACQUISITION, AN

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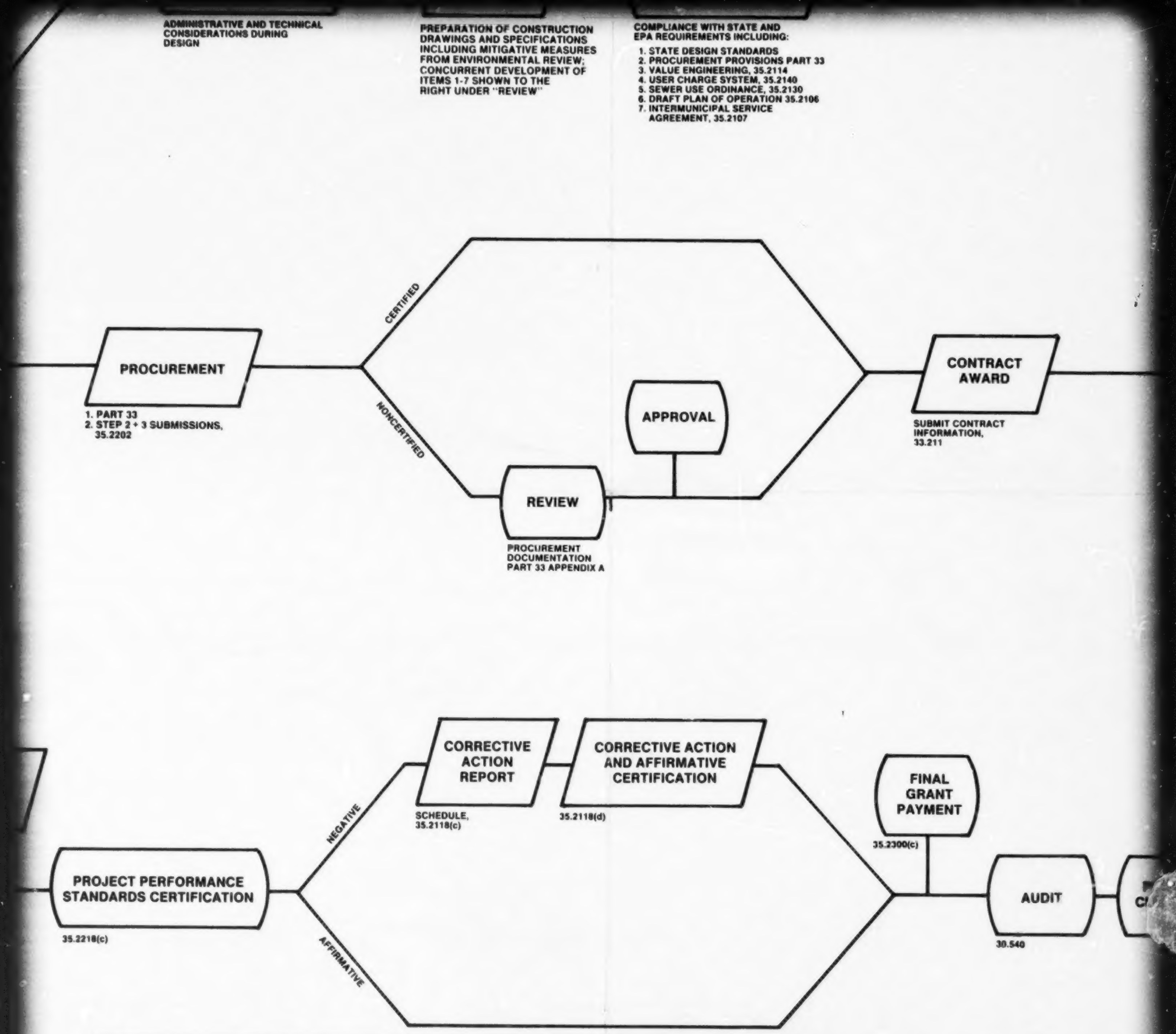
ADMINISTRATIVE AND TECHNICAL CONSIDERATIONS DURING DESIGN
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COMPLIANCE WITH STATE AND EPA REQUIREMENTS INCLUDING:
1. STATE DESIGN STANDARDS
2. PROCUREMENT PROVISIONS PART 33
3. VALUE ENGINEERING, 35.2114
4. USER CHARGE SYSTEM, 35.2140
5. SEWER USE ORDINANCE, 35.2130
6. DRAFT PLAN OF OPERATION 35.2106
7. INTERMUNICIPAL SERVICE AGREEMENT, 35.2107
PROCUREMENT
1. PART 33
2. STEP 2 + 3 SUBMISSIONS, 35.2202
CERTIFIED
NONCERTIFIED
APPROVAL
REVIEW
PROCUREMENT DOCUMENTATION PART 33 APPENDIX A
CONTRACT AWARD
SUBMIT CONTRACT INFORMATION, 33.211
CORRECTIVE ACTION REPORT
SCHEDULE, 35.2118(c)
CORRECTIVE ACTION AND AFFIRMATIVE CERTIFICATION
35.2118(d)
NEGATIVE
AFFIRMATIVE
PROJECT PERFORMANCE STANDARDS CERTIFICATION
35.2218(c)
FINAL GRANT PAYMENT
35.2300(c)
AUDIT
30.540

*ITEMS NEED NOT BE SUBMITTED UNTIL TIME OF GRANT APPLICATION. HOWEVER, GRANT APPLICANTS ARE ENCOURAGED TO SUBMIT LISTED ITEMS FOR REVIEW AT THE TIME SHOWN HERE.

NOT SHOWN ON SCHEMATIC FLOW DIAGRAM:
1. APPROVAL OF PRE-AWARD COSTS.
2. GRANTS FOR I/A FIELD TESTING, I/A MODIFICATION OR REPLACEMENT, LAND ACQUISITION, AND COMBINED SEWER OVERFLOW PROJECTS.

Figure 2 Construction Gr

Legend:
▢ State/EPA

prepared for: U.S. Environmental Protectio

Roy F. Weston, Inc.
Prime Contractor

A.T.
Sub

October 1984

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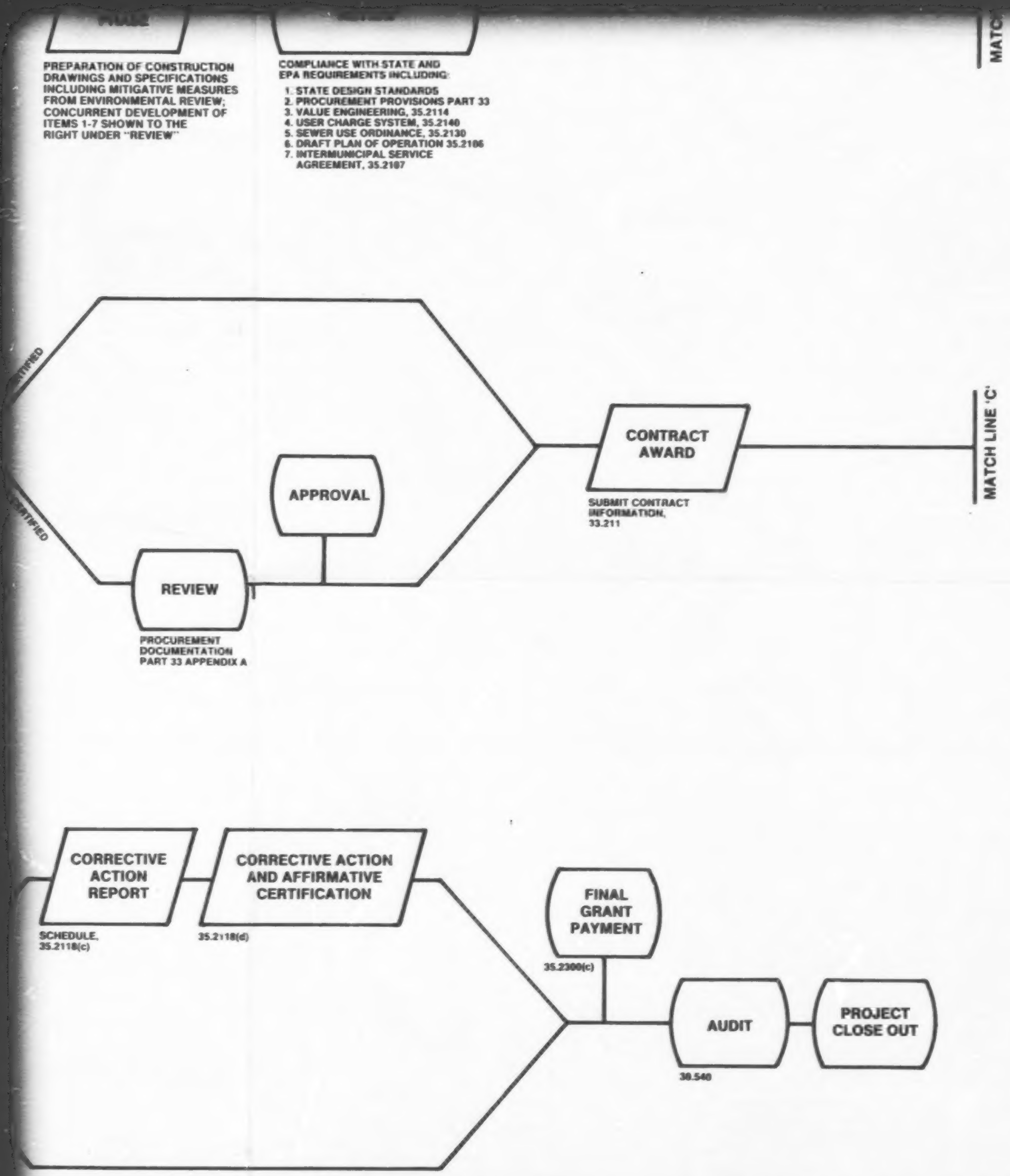
PREPARATION OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS INCLUDING MITIGATIVE MEASURES FROM ENVIRONMENTAL REVIEW; CONCURRENT DEVELOPMENT OF ITEMS 1-7 SHOWN TO THE RIGHT UNDER "REVIEW"
COMPLIANCE WITH STATE AND EPA REQUIREMENTS INCLUDING:
1. STATE DESIGN STANDARDS
2. PROCUREMENT PROVISIONS PART 33
3. VALUE ENGINEERING, 35.2114
4. USER CHARGE SYSTEM, 35.2140
5. SEWER USE ORDINANCE, 35.2130
6. DRAFT PLAN OF OPERATION 35.2106
7. INTERMUNICIPAL SERVICE AGREEMENT, 35.2107
MATC
TIFIED
TIFIED
APPROVAL
REVIEW
PROCUREMENT DOCUMENTATION PART 33 APPENDIX A
CONTRACT AWARD
SUBMIT CONTRACT INFORMATION, 33.211
MATCH LINE 'C'
CORRECTIVE ACTION REPORT
SCHEDULE, 35.2118(c)
CORRECTIVE ACTION AND AFFIRMATIVE CERTIFICATION
35.2118(d)
FINAL GRANT PAYMENT
35.2300(c)
AUDIT
30.540
PROJECT CLOSE OUT

TIME OF GRANT APPLICATION.
COURAGED TO SUBMIT LISTED
HERE.

RAM:

ODIFICATION OR REPLACEMENT,
EWER OVERFLOW PROJECTS.

Figure 2 Construction Grants Process

Legend:

▭ State/EPA	▱ Applicant/Grantee

prepared for: U.S. Environmental Protection Agency

Roy F. Weston, Inc.
Prime Contractor

A.T. Bowyer, Inc.
Subcontractor

October 1984